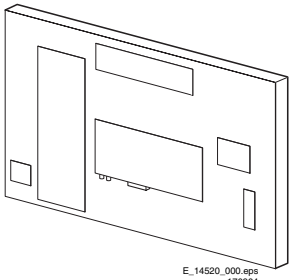
LC4.1HE

AB

Supplement to manual LC4.1E AB: 3122 785 15310

Service
Service
Service



ServiceManual

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PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connection Overview
1.3 Chassis Overview

Notes:

- Only information that is related to the iTV module, is published in this manual. For the other information, see the relevant chassis manual (order code on front page).
- Some models in this chassis range have a different mechanical construction. The information given here is therefore model specific.
- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	:	LCD
Screen size	:	15” (38 cm), 4:3
	:	20” (51 cm), 4:3
	:	23” (58 cm), 16:9
Resolution (HxV pixels)	:	1024x768 (15”)
	:	640x480 (20”)
	:	1366x768 (23”)
Contrast ratio	:	500: 1 (15”)
	:	350 : 1 (20”)
	:	450 : 1 (23”)
Light output (cd/m^2)	:	450 (15” + 20”)
	:	500 (23”)
Response time (ms)	:	16 (15” + 23”)
	:	25 (20”)
Viewing angle (HxV degrees)	:	130x100 (15”)
	:	176x176 (20”)
	:	140x125 (23”)
Tuning system	:	PLL
TV Colour systems	:	PAL B/G, D/K, I
	:	SECAM B/G, D/K, L/L’
Video playback	:	NTSC
	:	PAL
	:	SECAM
Supported computer formats	:	640x480 (all)
	:	720x400 (15”+23”)
	:	640x480 (15” + 23”)
	:	832x624 (15” + 23”)
	:	800x600 (15” + 23”)
	:	1024x768 (15” + 23”)
	:	1280x768 (23”)
Supported video formats	:	640x480i-1fH (all)
	:	640x480p-2fH (15”+23”)
	:	720x576i-1fH (all)
	:	720x576p-1fH (all)
	:	1280x720p-3fH (15”+23”)
	:	1920x1080i-2fH (15”+23”)
Presets/channels	:	125 presets
Tuner bands	:	VHF
	:	UHF
	:	S-band
	:	Hyper-band
	:	FM-radio

1.1.2 Sound

Sound systems	:	FM-mono
	:	AM-mono
	:	FM-stereo B/G
	:	NICAM B/G, D/K, I, L
	:	AV Stereo
	:	Virtual Dolby Surround
Maximum power (W_{RMS})	:	2 x 2 (15”)
	:	2 x 5 (20” + 23”)

1.1.3 Miscellaneous

Power supply:		
- Mains voltage (V_{AC})	:	90 - 240 (15”+ 23”)
	:	100 - 250 (20”)
- Mains frequency (Hz)	:	50 / 60
Ambient conditions:		
- Temperature range (°C)	:	+5 to +40
- Maximum humidity	:	90% R.H.
Power consumption (values are indicative)		
- Normal operation (W)	:	≈ 42/55/92
- Stand-by (W)	:	< 1/1.5/3
Dimensions (WxHxD cm)	:	47.2x30.8x7.65 (15”)
	:	58.3x38.6x8.7 (20”)
	:	71.6x37.5x9.8 (23”)
Weight (kg)	:	5 (15”)
	:	8.5 (20”)
	:	8.8 (23”)

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side Connections

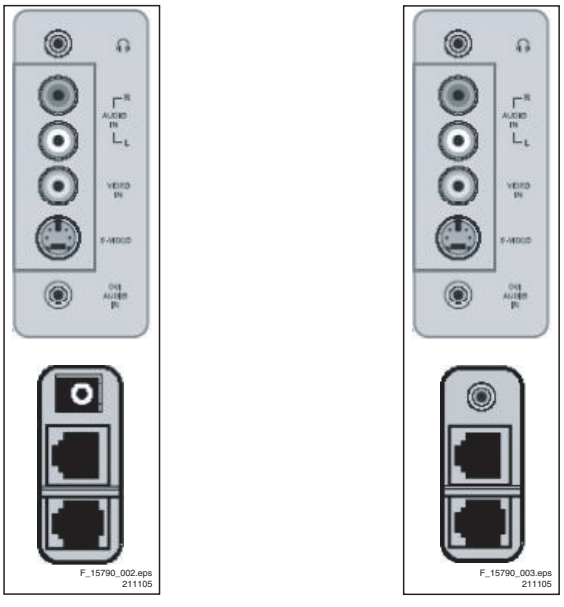


Figure 1-1 Side I/O: 15” (left side), 20”+23” (right side)

Mini Jack: Audio Head phone - Out

Bk - Head phone	32 - 600 ohm / 10 mW	

Cinch: Video CVBS - In, Audio - In

Ye - Video CVBS	1 V_{PP} / 75 ohm	
Wh - Audio L	0.5 V_{RMS} / 10 kohm	
Rd - Audio R	0.5 V_{RMS} / 10 kohm	

Mini Jack: DVI-Audio - In

1 - Ground Y	Gnd	
2 - Ground C	Gnd	
3 - Video Y	1 V_{PP} / 75 ohm	
4 - Video C	0.3 V_{PP} / 75 ohm	

S-Video (Hosiden): Video Y/C - In

1 - Ground Y	Gnd	
2 - Ground C	Gnd	
3 - Video Y	1 V_{PP} / 75 ohm	
4 - Video C	0.3 V_{PP} / 75 ohm	

12V_{DC} - In (15-inch models)

1 - Supply	+12 V_{DC}	
2 - Ground	Gnd	
3 - n.c.		

Mini Jack: Speaker - Out (20 + 23-inch models)

- Loudspeaker	8 ohm	

RJ45: DATA2 (Xpress Box- In/Out)

1 - +12V	+12 V / 1 W	
2 - GND	Gnd	
3 - H_{SYN}	Signal	
4 - V_{SYN}	Signal	
5 - TXD232	Signal	
6 - RXD232	Signal	
7 - SDA3_IR-OUT	Signal	
8 - DCM-POR	Signal	
9 - CVBS-terr	Signal	
10 - GNDA	Gnd	

RJ12: DATA1 (HM-Link - In/Out)

1 - LED_in	< 0.3 V, active low	
2 - IR_in	< 0.3 V, active low	
3 - MODE	Vcc	
4 - TV Power Status	4.5 to 5 V - TV “On”, < 0.3V - TV “Stdby”, High impedance - TV “Off”	
5 - GND	Gnd	
6 - IR_out	Signal	

1.2.2 Rear I/O connections

Rear connections are the same as for the LC4.1E.

1.3 Chassis Overview

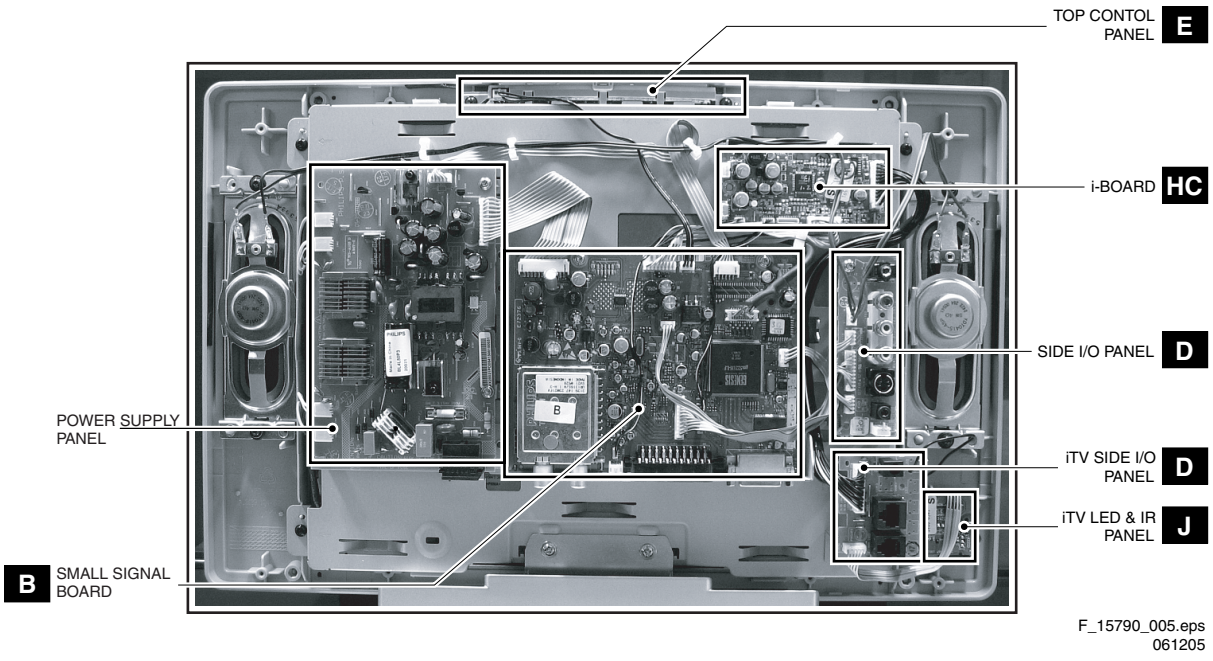


Figure 1-2 PWB locations (depending on model)

2. Safety Instructions, Warnings, and Notes

See the relevant chassis manual (order code on front page).

3. Directions for Use

See the relevant chassis manual (order code on front page).

4. Mechanical Instructions

Index of this chapter:

4.1 Service Position
4.2 Cable Dressing
4.3 Assy/Panel Removal
4.4 Set Re-assembly

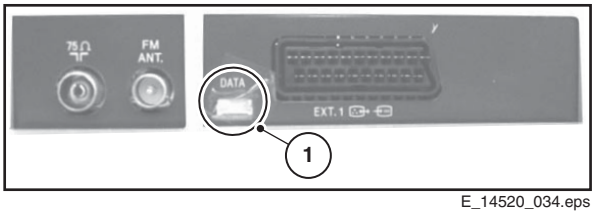
Notes:

- Only information that is related to the iTV module, is published in this manual. For the other information, see the relevant chassis manual (order code on front page).
- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

Note: To diagnose the set with ComPair it is **not** needed to open the set entirely.
To access the ComPair connector, proceed with the following:

1. *Manually unlock and remove the cover cap.*
2. Remove the tape shielding that covers the ComPair connector (1).

Note: Make sure that both the ComPair connector and the UART connector are shielded off with a piece of insulating tape after repair for ESD reasons. Place this tape over the holes in the rear cover of the set.

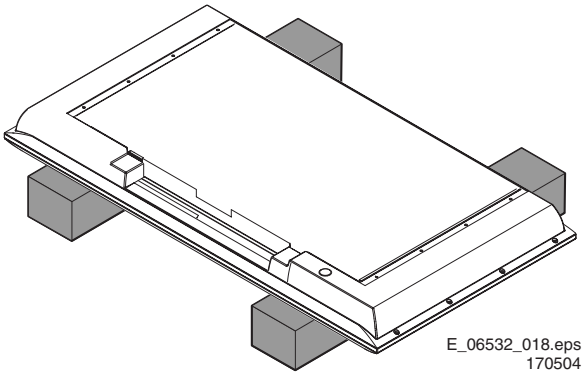


E_14520_034.eps
160904

Figure 4-1 ComPair connector

4.1 Service Position

4.1.1 Foam Bars



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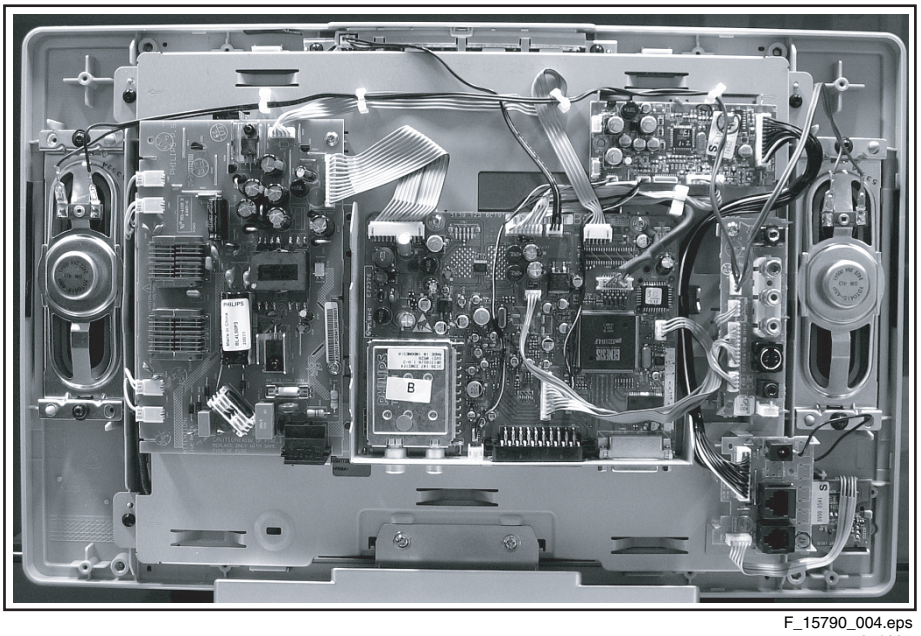
170504

Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580) can be used for all types and sizes of Flat TVs. By laying the plasma or LCD TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By placing a mirror under the TV, you can easily monitor the screen.

4.2 Cable Dressing



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051205

Figure 4-3 Cable dressing (15-inch model)

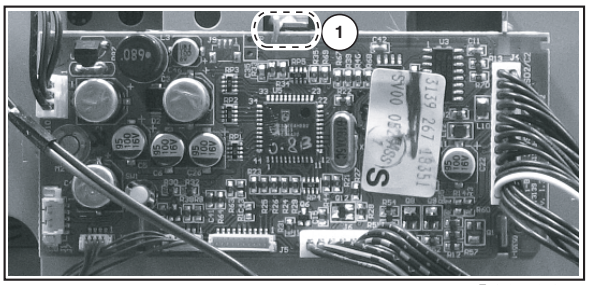
4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.3.2 i-Board Panel



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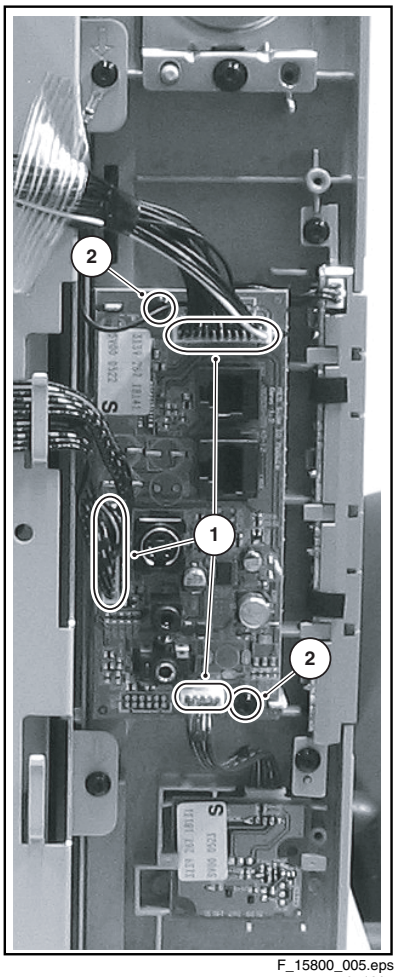
201205

Figure 4-4 i-Board panel

1. Disconnect all cables from the panel.
2. Untwist the fixation lip [1] c.c.w. with a pair of pliers.
3. Remove the panel.

4.3.3 Side I/O Panel



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071205

Figure 4-5 Side I/O panel

1. Disconnect the cable [1] from the panel.
2. Release the two fixation clamps [2] and lift the panel out of the bracket.

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing". Also make sure that the anti-static copper foils are not damaged and that they make good electrical contact with the metal frame. Be careful with the fragile LVDS cable.

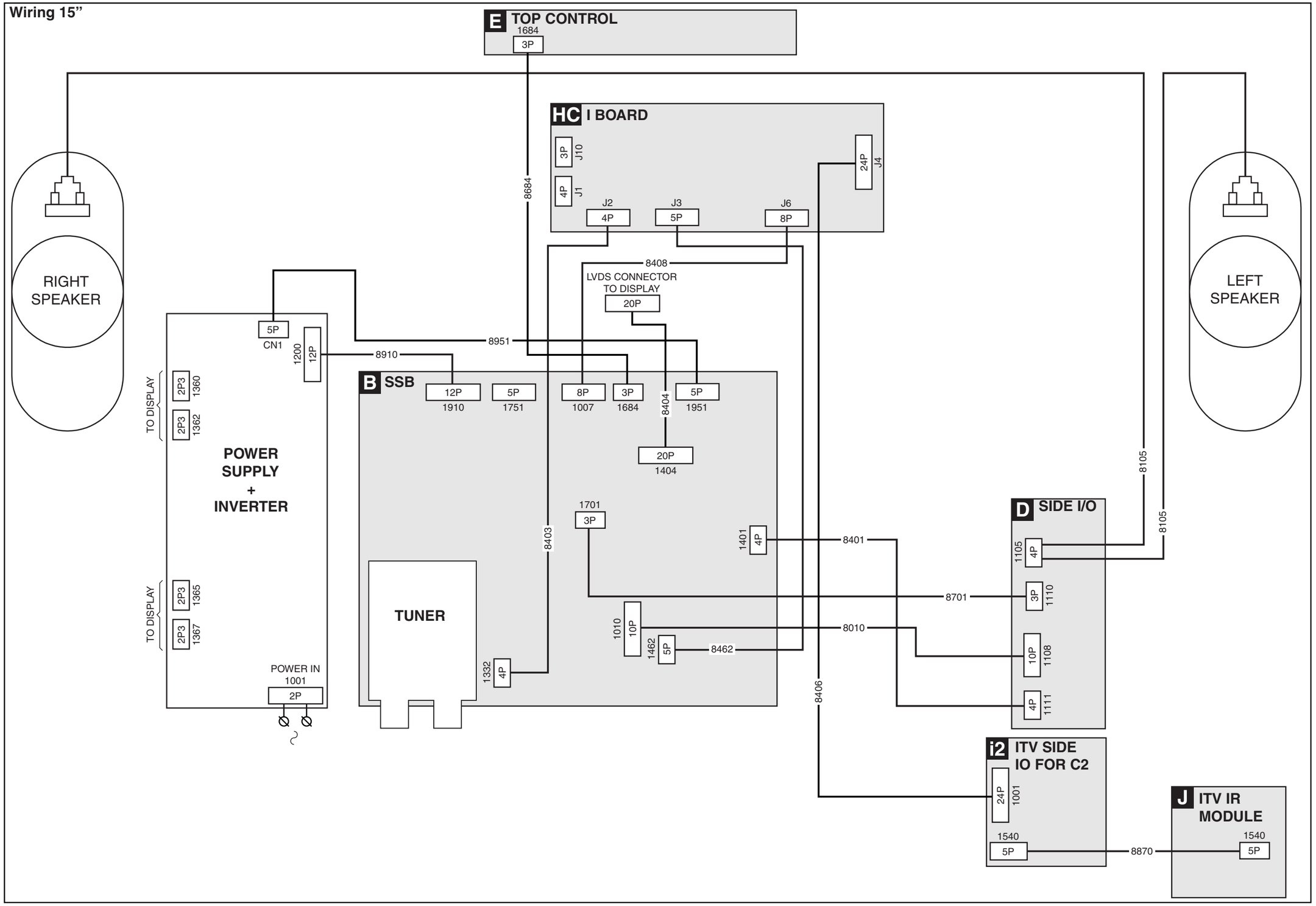
5. Service Modes, Error Codes, and Fault Finding

See the relevant chassis manual (order code on front page).

Personal Notes:

6. Block Diagrams, Test Point Overviews, and Waveforms

Wiring Diagram 15”



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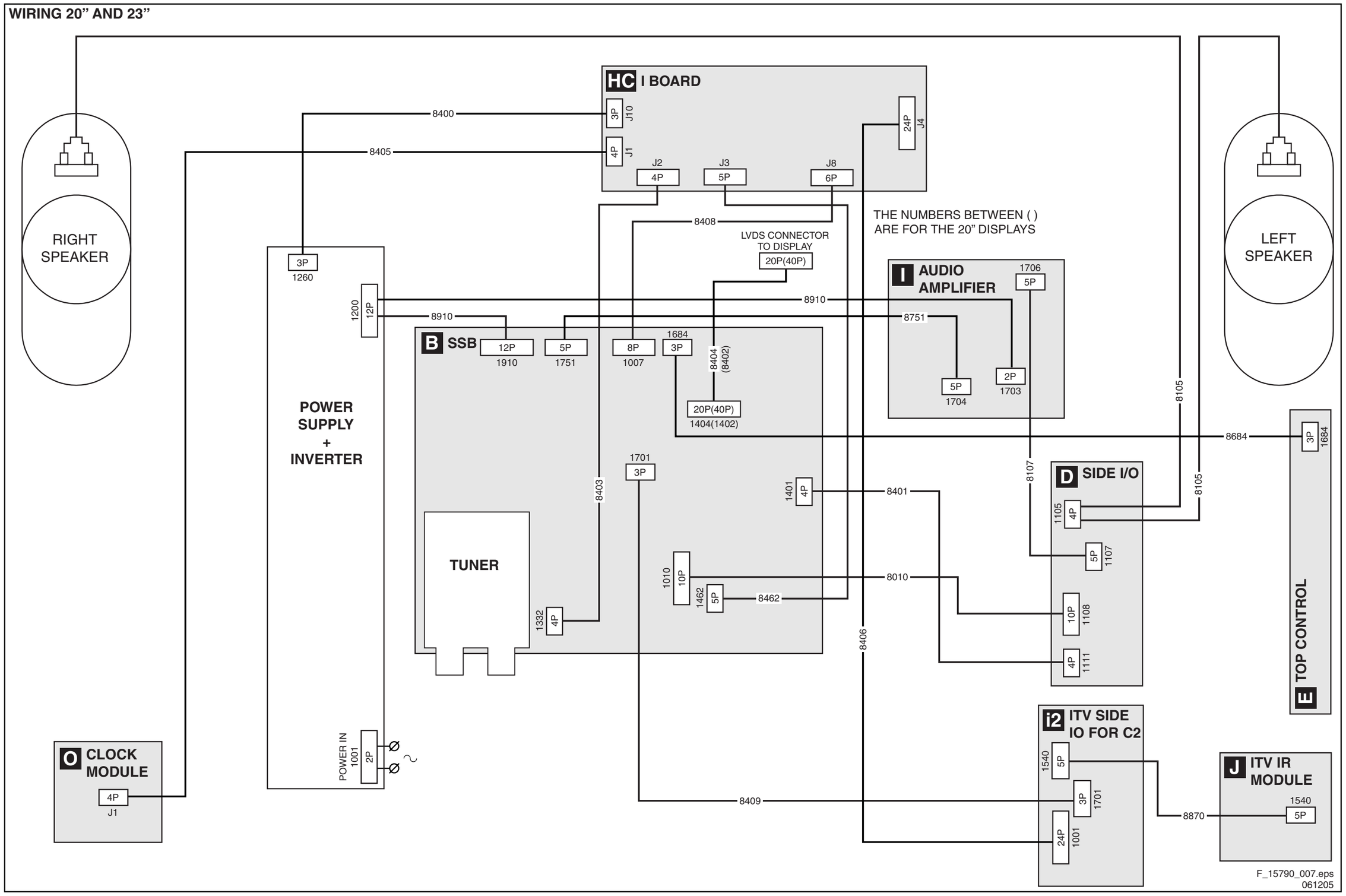
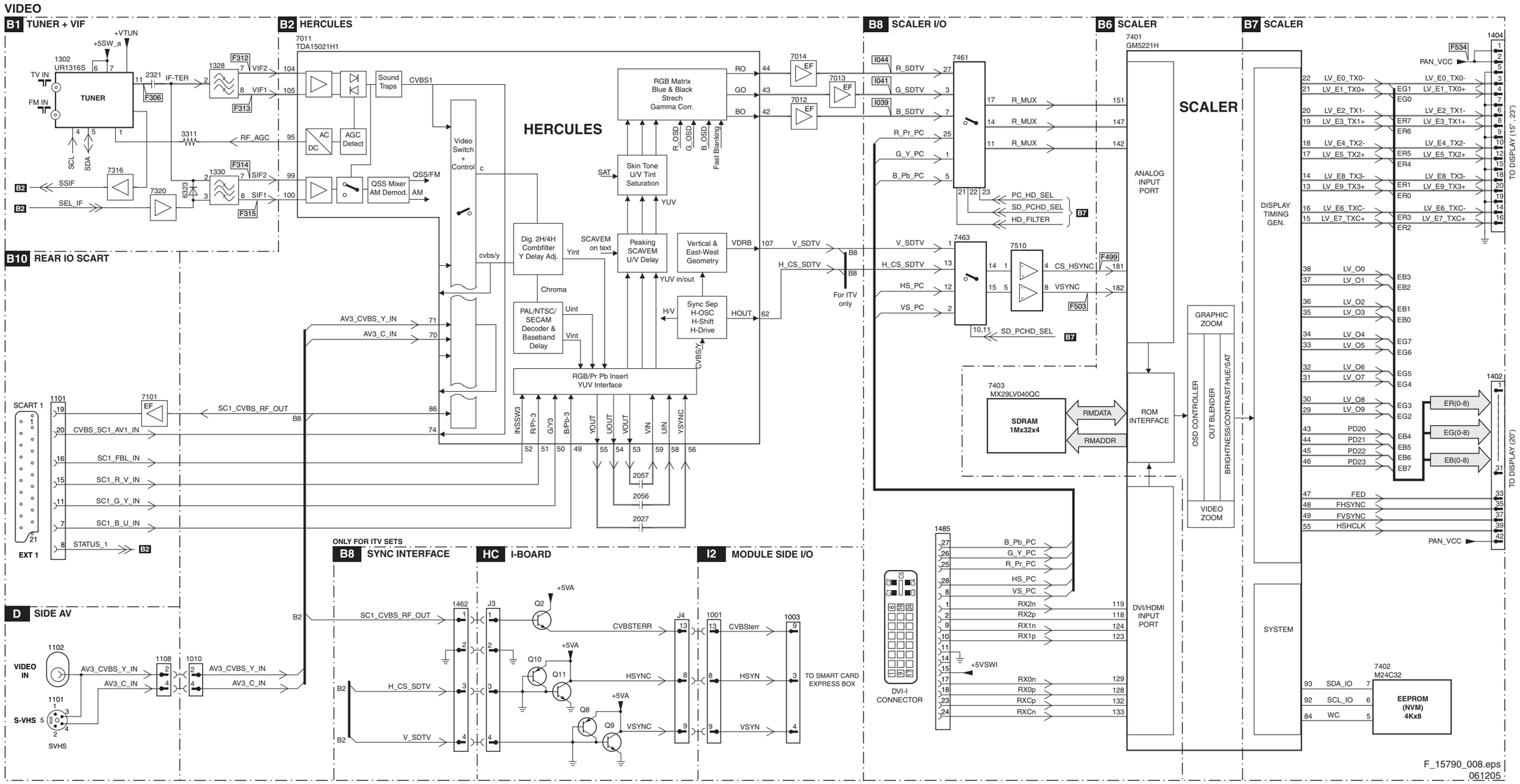
061205

Wiring Diagram 20” & 23”



Block Diagram Video



Block Diagram Audio & Control

AUDIO

B1 TUNER + IF

1302 UR1316S
TV IN
FM IN
TUNER
IFOUT 11
IF-TER
F306
2321
6323
1330
7316
SIF2
SIF1
SIFF
SCL
SDA
B2 SEL_IF_SDM
7320

B10 REAR IO SCART

1101
L_SC1_AV1_IN
R_SC1_AV1_IN
EXT 1 SCART 1

D SIDE AV

1102
AUDIO L/R IN
AV3_L_IN
AV3_R_IN
1104
PC AUDIO IN
PC_AUDIO_L
PC_AUDIO_R
1108
1010

B2 HERCULES

7217 TDA15021H
QSS Mixer AM Demod.
AM
QSS/FM
AD Conv. Std Stereo Decoder
AUDIO CONTROL Vol/Treb/ Bass Features DACs
I2S Processor
AUDIO SELECT ADC/DAC
99
100
33
34
35
56
57
49
50
53
54
61 AUDOUTLSR
60 AUDOUTLSL
62
63
36
37
OUT_MUTE

B4 AUDIO AMPLIFIER

1751
B2 STANDBY
MUTE
FOR 20", 23" DISPLAY
7712 TDA1517ATW
1701
7702 7703
MUTE
7602 74HC08PW
SOUND_ENABLE
POWER_DOWN
EXT_MUTE
7752

B10 REAR IO SCART

SC1_L_RF_OUT
SC1_R_RF_OUT
7370 MUTE
SC1_L
SC1_R
1101
EXT 1 SCART 1

I AUDIO AMPLIFIER (20", 23")

1706
1704
7712 TDA1517ATW
AUDOUTLSR
AUDOUTLSL
7703-1
7703-2
R+
R-
L+
L-

D SIDE AV

1106
1107
1001
RIGHT SPEAKER
LEFT SPEAKER
HEAD PHONE
1110
FOR 15" DISPLAY

i2 SIDE AV (20", 23")

1701
1005
BATHROOM SPEAKER
FOR 20", 23" DISPLAY

CONTROL

J IR LED PANEL

6541 VS GND OUT
+5VA
IR
6540B Green
6540A Red
7542
7540
7541
3540
3544
LED-SEL
PC-TV-LED
1540
RC_IR
+5V
RD_GR_LED
LED_CTRL

i2 MODULE SIDE I/O

1002
To Smart Card Express Box
LEDIN_CLK
IRIN_DATA-IN
MODE
STATUS_DATA-OUT
GND
IR_OUT
LED_CTRL
RD_GR_LED
RC_IR
1001

HC I-BOARD

J4
LEDIN_CLK_TXD_SCL1
IR_IN_DATA-IN_RXD_SDA1
MODE
STATUS_DATA_OUT
IR_OUT
CONTR.
PC_TV_LED_OUT
+5V
LED_SEL_OUT
RC_IR
See Blockdiagram I²C
U5 P89C664
MICRO CONTR.
U4 HEF4053BT
U3 HEF4053BT
MULTI PLEX
PC_TV_LED
+3V3STBY
LED-SEL
IR_IN_TV
LIGHT-SENSOR
J6

B3 HERCULES

1007
PC-TV-LED
LED-SEL
IR
LIGHT-SENSOR
+3V3STBY
3063
7060
+5VSW
6060

E KEYBOARD CONTROL

Channel+ 1309
Channel- 1310
Volume+ 1311
Volume- 1312
Power 1313
Menu 1314
KB
1684
KEYBOARD

B2 HERCULES

7011 TDA15021H1
HERCULES
SEL_IF
4015 SERVICE SDM
TV_IRQ
STATUS_1
EXT_MUTE
SOUND-ENABLE
STANDBY
TV_SC_COM
6073
6076
POWER_DOWN
1001

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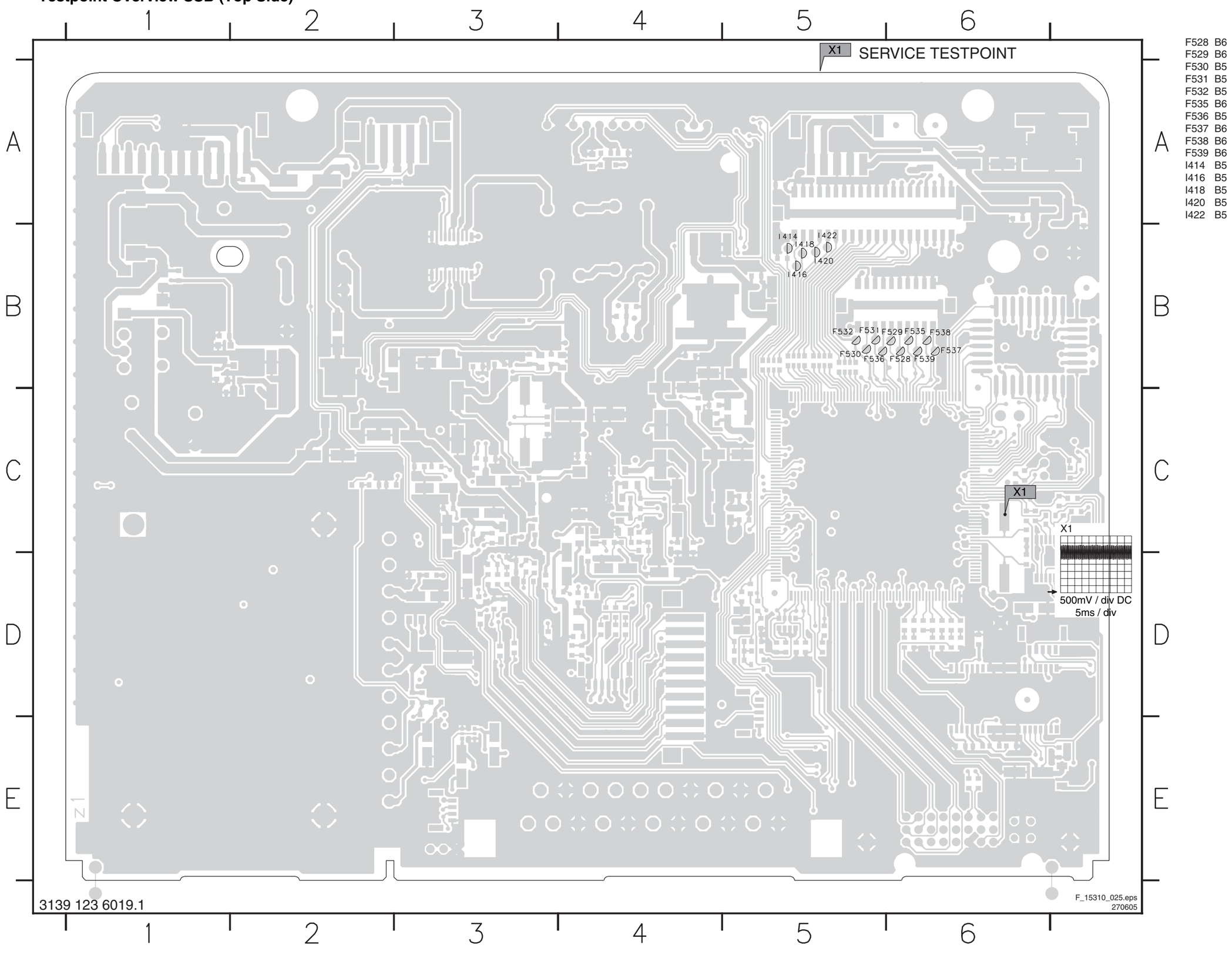
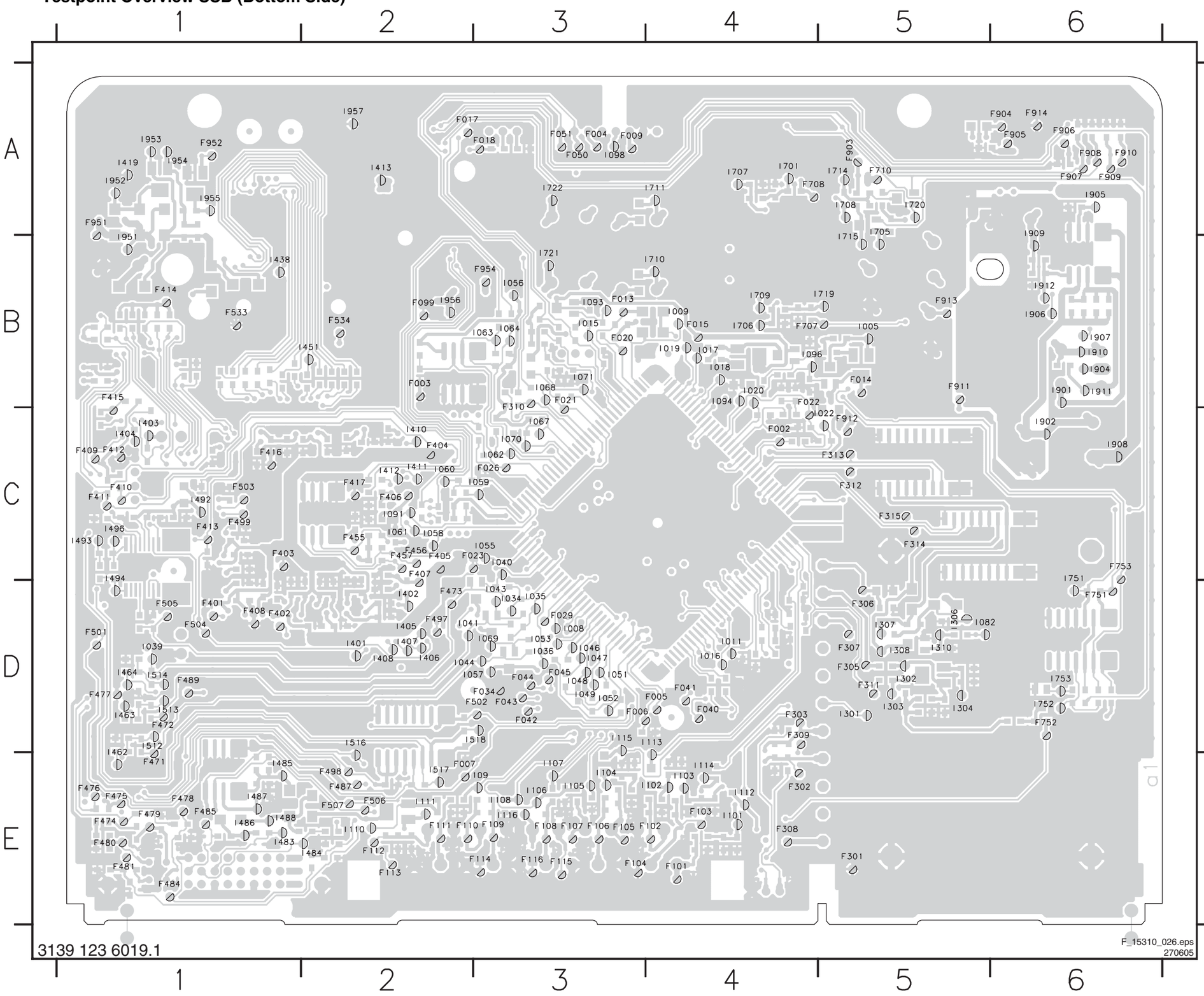
061205

Testpoint Overview SSB (Top Side)



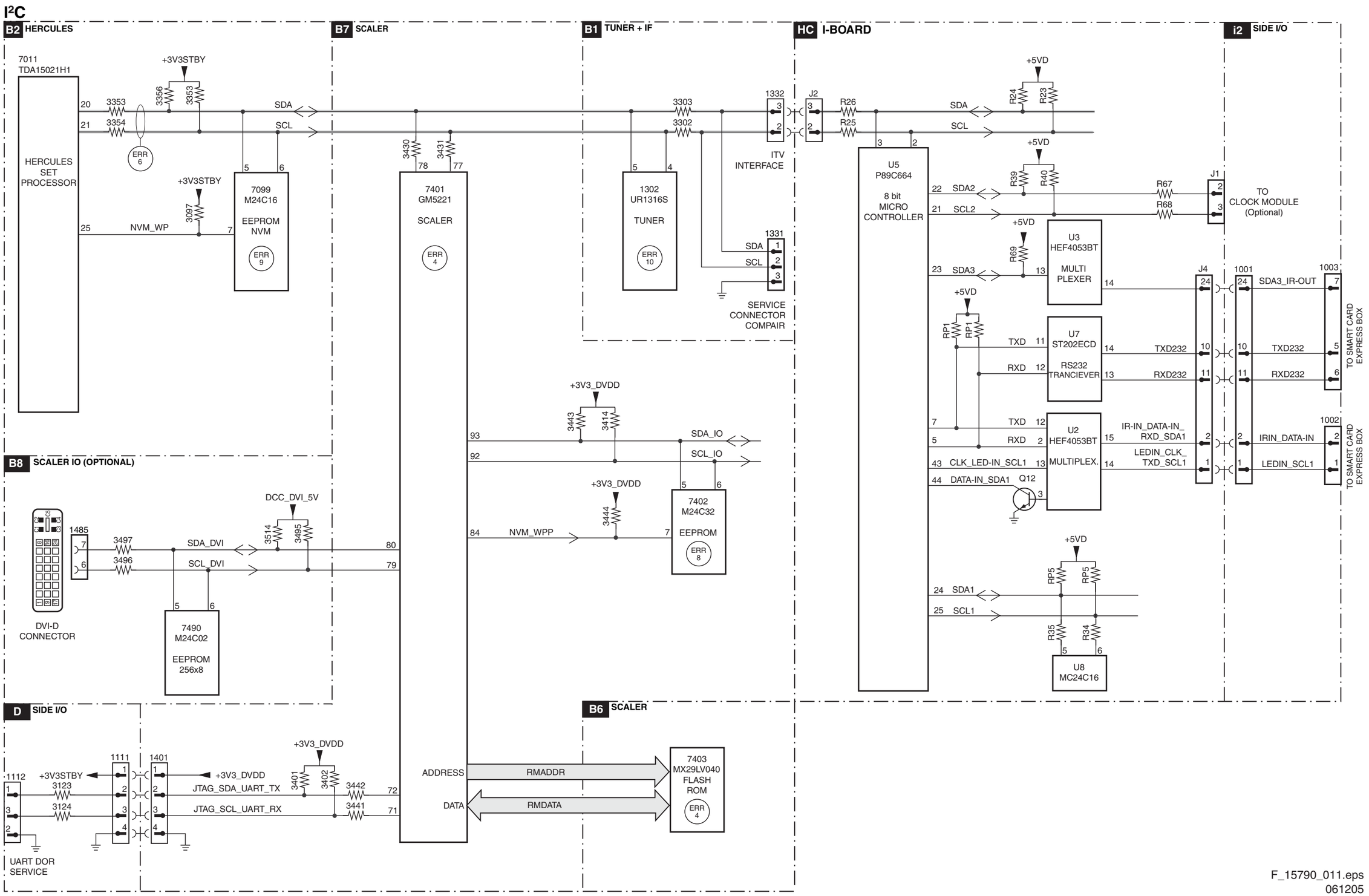
F528 B6
F529 B6
F530 B5
F531 B5
F532 B5
F535 B6
F536 B5
F537 B6
F538 B6
F539 B6
I414 B5
I416 B5
I418 B5
I420 B5
I422 B5

Testpoint Overview SSB (Bottom Side)



F002	C4	F478	E1	I094	B4	I909	A6
F003	B2	F479	E1	I096	B4	I910	B6
F004	A3	F480	E1	I098	A3	I911	B6
F005	D4	F481	E1	I101	E4	I912	B6
F006	D3	F484	E1	I102	E4	I951	B1
F007	E2	F485	E1	I103	E4	I952	A1
F009	A3	F487	E2	I104	E3	I953	A1
F013	B3	F489	D1	I105	E3	I954	A1
F014	B5	F497	D2	I106	E3	I955	A1
F015	B4	F498	E2	I107	E3	I956	B2
F017	A2	F499	C1	I108	E3	I957	A2
F018	A3	F501	D1	I109	E3		
F020	B3	F502	D3	I110	E2		
F021	B3	F503	C1	I111	E2		
F022	B4	F504	D1	I112	E4		
F023	C2	F505	D1	I113	D4		
F026	C3	F506	E2	I114	E4		
F029	D3	F507	E2	I115	D3		
F034	D3	F533	B1	I116	E3		
F040	D4	F534	B2	I301	D5		
F041	D4	F707	B4	I302	D5		
F042	D3	F708	A4	I303	D5		
F043	D3	F710	A5	I304	D5		
F044	D3	F751	D6	I306	D5		
F045	D3	F752	D6	I307	D5		
F050	A3	F753	C6	I308	D5		
F051	A3	F903	A5	I310	D5		
F099	B2	F904	A6	I401	D2		
F101	E4	F905	A6	I402	D2		
F102	E4	F906	A6	I403	C1		
F103	E4	F907	A6	I404	C1		
F104	E3	F908	A6	I405	D2		
F105	E3	F909	A6	I406	D2		
F106	E3	F910	A6	I407	D2		
F107	E3	F911	B5	I408	D2		
F108	E3	F912	C5	I410	C2		
F109	E3	F913	B5	I411	C2		
F110	E2	F914	A6	I412	C2		
F111	E2	F951	A1	I413	A2		
F112	E2	F952	A1	I419	A1		
F113	E2	F954	B3	I438	B1		
F114	E3	I005	B5	I451	B2		
F115	E3	I008	D3	I462	D1		
F116	E3	I009	B4	I463	D1		
F301	E5	I011	D4	I464	D1		
F302	E4	I015	B3	I483	E1		
F303	D4	I016	D4	I484	E2		
F305	D5	I017	B4	I485	E1		
F306	D5	I018	B4	I486	E1		
F307	D5	I019	B4	I487	E1		
F308	E4	I020	B4	I488	E1		
F309	D4	I022	C5	I492	C1		
F310	B3	I034	D3	I493	C1		
F311	D5	I035	D3	I494	C1		
F312	C5	I036	D3	I496	C1		
F313	C5	I039	D1	I512	D1		
F314	C5	I040	C3	I513	D1		
F315	C5	I041	D2	I514	D1		
F401	D1	I043	D3	I516	D2		
F402	D1	I044	D2	I517	E2		
F403	C1	I046	D3	I518	D3		
F404	C2	I047	D3	I701	A4		
F405	C2	I048	D3	I705	A5		
F406	C2	I049	D3	I706	B4		
F407	C2	I051	D3	I707	A4		
F408	D1	I052	D3	I708	A5		
F409	C1	I053	D3	I709	B4		
F410	C1	I055	C3	I710	B4		
F411	C1	I056	B3	I711	A4		
F412	C1	I057	D2	I714	A5		
F413	C1	I058	C2	I715	B5		
F414	B1	I059	C3	I719	B5		
F415	B1	I060	C2	I720	A5		
F416	C1	I061	C2	I721	B3		
F417	C2	I062	C3	I722	A3		
F455	C2	I063	B3	I751	C6		
F456	C2	I064	B3	I752	D6		
F457	C2	I067	C3	I753	D6		
F471	E1	I068	B3	I901	B6		
F472	D1	I069	D3	I902	C6		
F473	D2	I070	C3	I904	B6		
F474	E1	I071	B3	I905	A6		
F475	E1	I082	D5	I906	B6		
F476	E1	I091	C2	I907	B6		
F477	D1	I093	B3	I908	C6		

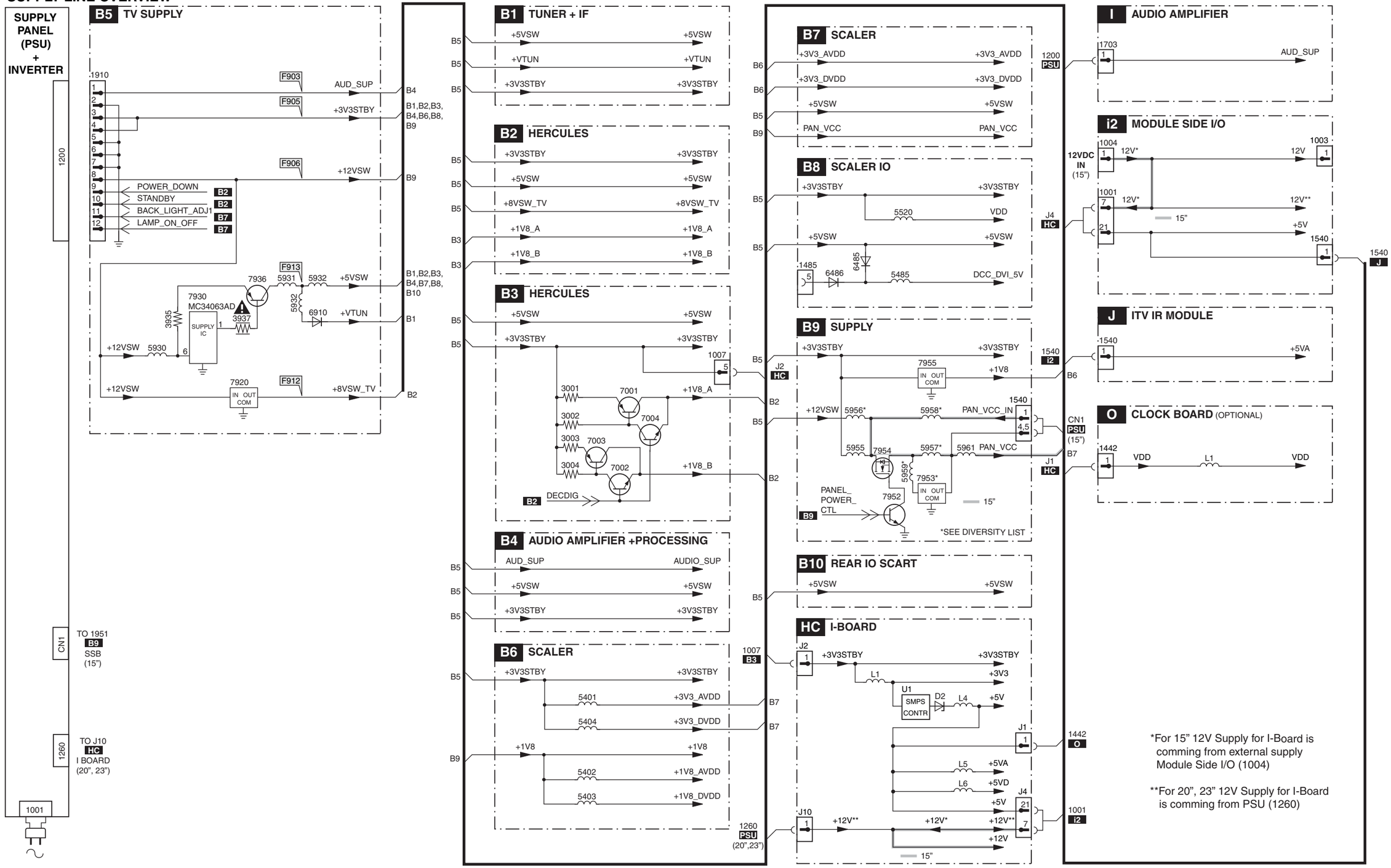
I2C Overview



F_15790_011.eps
061205

Supply Voltage Overview

SUPPLY LINE OVERVIEW



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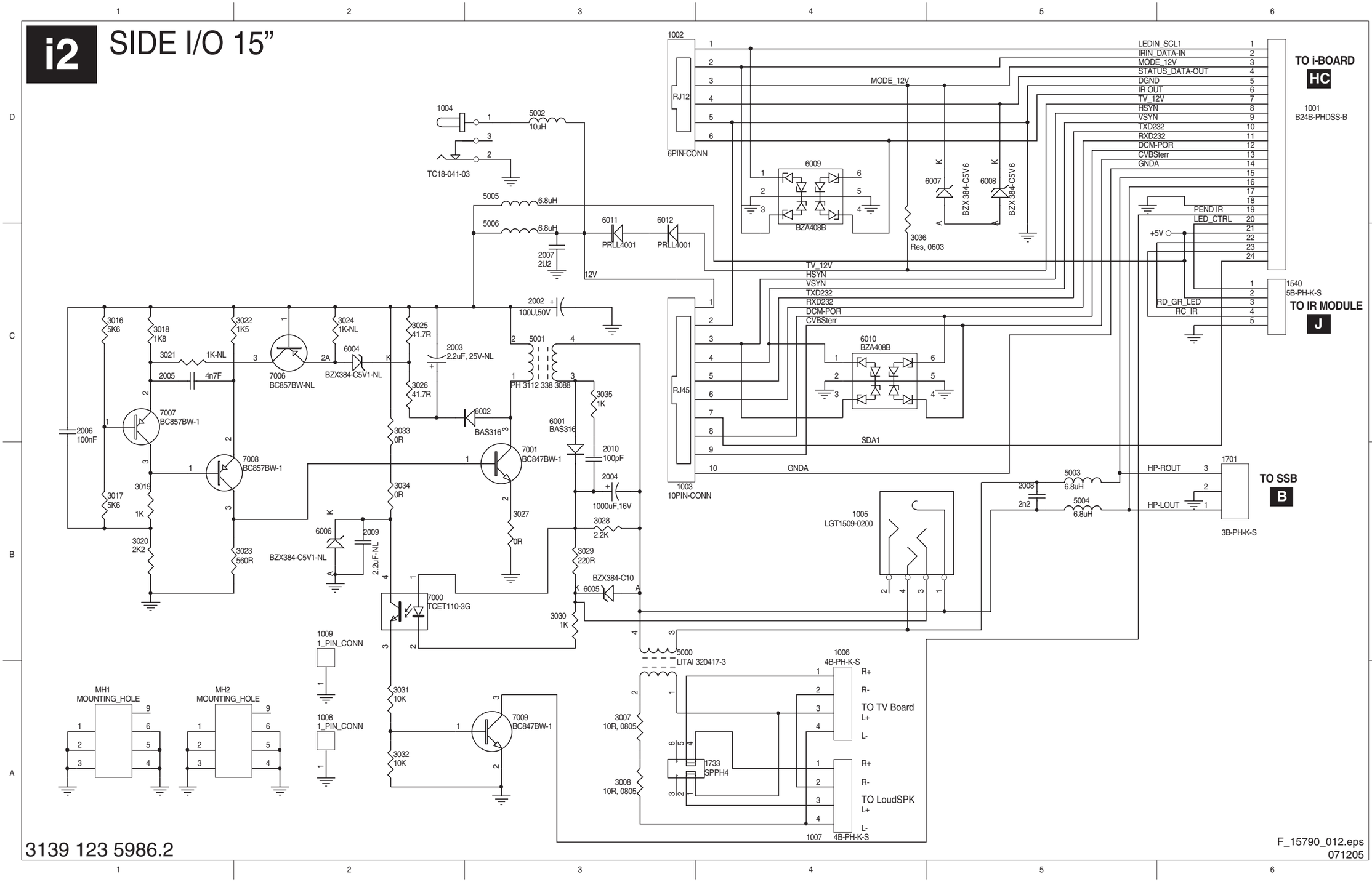
061205

7. Circuit Diagrams and PWB Layouts

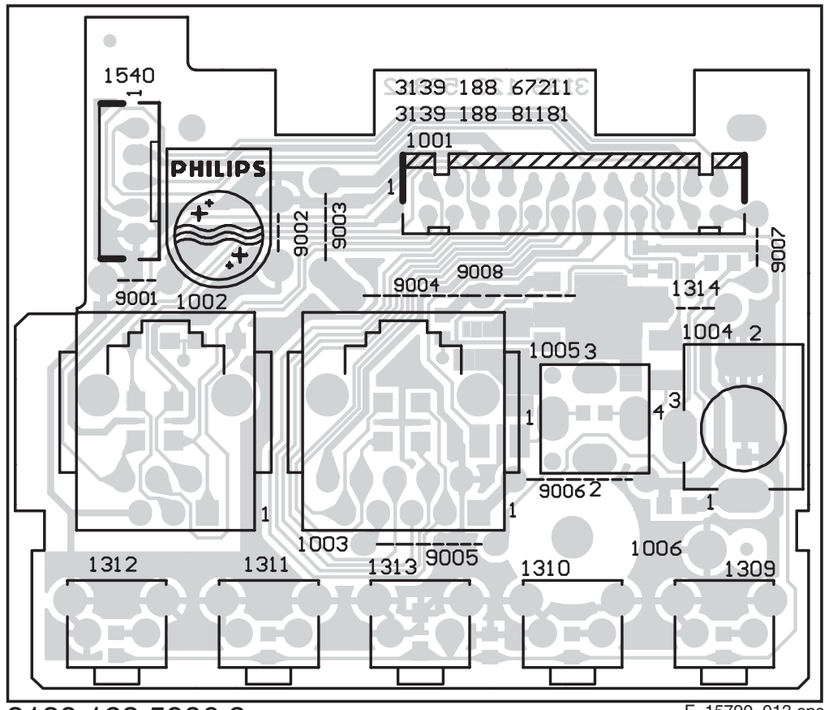
Side I/O Panel & LKB 15”



3139 123 5986.2

F_15790_012.eps
071205

Layout Side I/O Panel 15” (Top Side)



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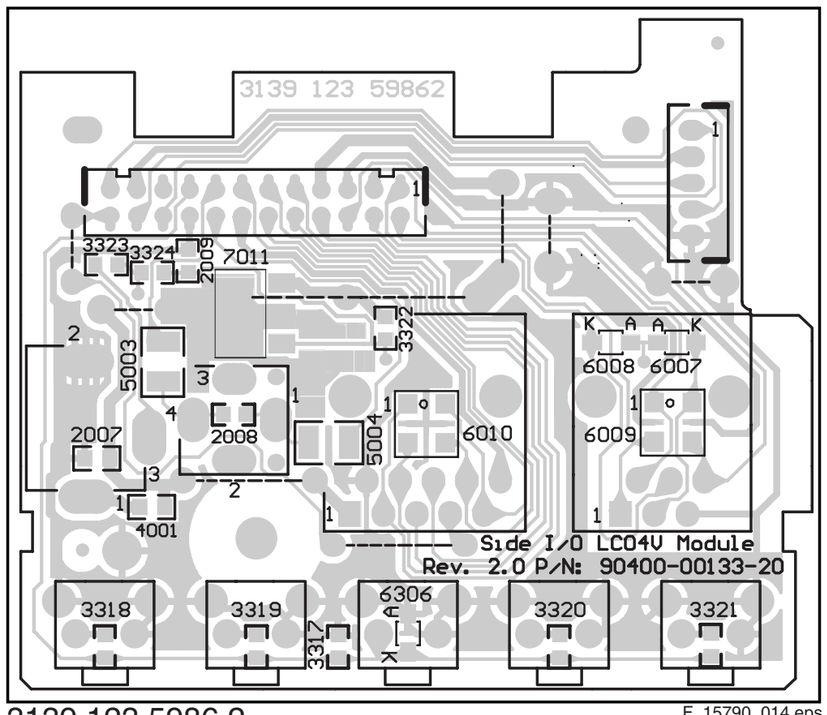
F_15790_013.eps
061205

Layout Side I/O Panel 15” (Bottom Side)



3139 123 5986.2

F_15790_014.eps
061205

Personal Notes:

E_06532_012.eps
131004

Side I/O & Panel & LKB 20” & 23”

i2 SIDE I/O 20” & 23”

4003 JUMPER
4004 JUMPER
4005 JUMPER
4006 JUMPER
4008 JUMPER
4009 JUMPER
4010 JUMPER
9001 JUMPER

1004 TC18-041-03
5002 10uH
5005 6.8uH
5006 6.8uH
2007 2U2
4001 JUMPER
4002 JUMPER
6011 PRLL4001
6012 PRLL4001
12V 9003 JUMPER 12V

1002 RJ12 6PIN-CONN
1003 10PIN-CONN
RJ45

MODE_12V
6009 BZA408B
6007 BZX384-C5V6
6008 BZX384-C5V6
4007 0R
3036 Res, 0603

TO i-BOARD HC
1001 B24B-PHDSS-B
LEDIN_SCL1
IRIN_DATA-IN
MODE_12V
STATUS_DATA-OUT
DGND
IR OUT
TV_12V
HSYN
VSYN
TXD232
RXD232
DCM-POR
CVBSterr
GNDA
PEND IR
LED_CTRL
+5V
SDA1

TV_12V
HSYN
VSYN
TXD232
RXD232
DCM-POR
CVBSterr
6010 BZA408B
SDA1
GNDA

1540 5B-PH-K-S
TO IR MODULE J
RD_GR_LED
RC_IR
9002 JUMPER

1701 TO SSB B
3B-PH-K-S
HP-ROUT
HP-LOUT
5003 6.8uH
5004 6.8uH
2008 2n2

1005 LGT1509-0200
24011 JUMPER

3016 5K6
3018 1K8
3022 1K5
3024 1K-NL
3021 1K-NL
2005 4n7F
7006 BC857BW-NL
6004 BZX384-C5V1-NL
3025 41.7R
3026 41.7R
2003 2.2uF, 25V-NL
2002 100U,50V
25001 PH 3112 338 3088
3035 1K
6002 BAS316
6001 BAS316
2010 100pF
2004 1000uF,16V
7001 BC847BW-1
7007 BC857BW-1
2006 100nF
7008 BC857BW-1
3017 5K6
3019 1K
3020 2K2
3023 560R
3033 0R
3034 0R
3027 0R
3028 2.2K
3029 220R
6006 BZX384-C5V1-NL
2009 2.2uF-NL
6005 BZX384-C10
7000 TCET110-3G
3030 1K
3031 10K
3032 10K
3037 10K
7009 BC847BW-1
1009 1_PIN_CONN
1008 1_PIN_CONN
+5V

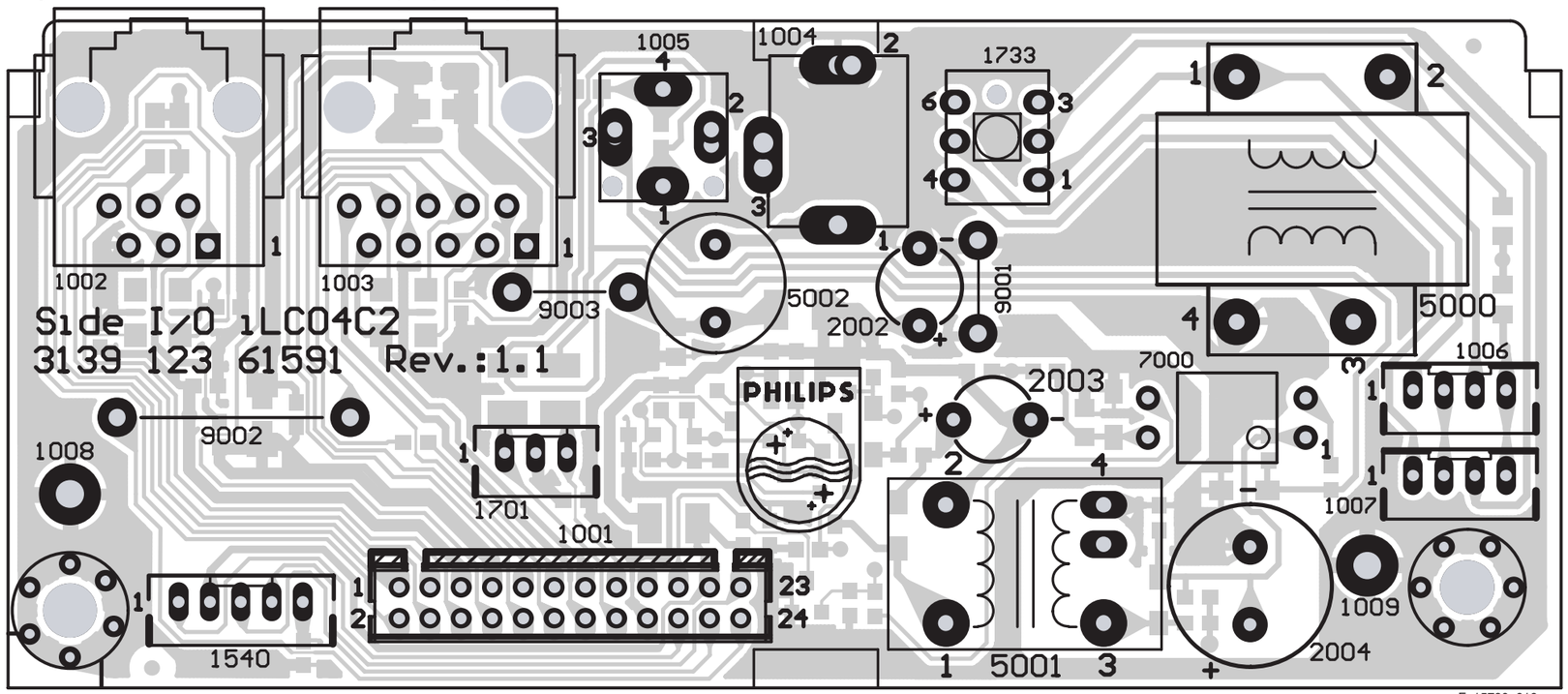
5000 LITAI 320417-3
1006 4B-PH-K-S
TO TV Board
R+
R-
L+
L-
3007 10R, 0805
3008 10R, 0805
1733 SPPH4
TO LoudSPK
1007 4B-PH-K-S

MH1 MOUNTING_HOLE
MH2 MOUNTING_HOLE

3139 123 6159.1

F_15790_015.eps
071205

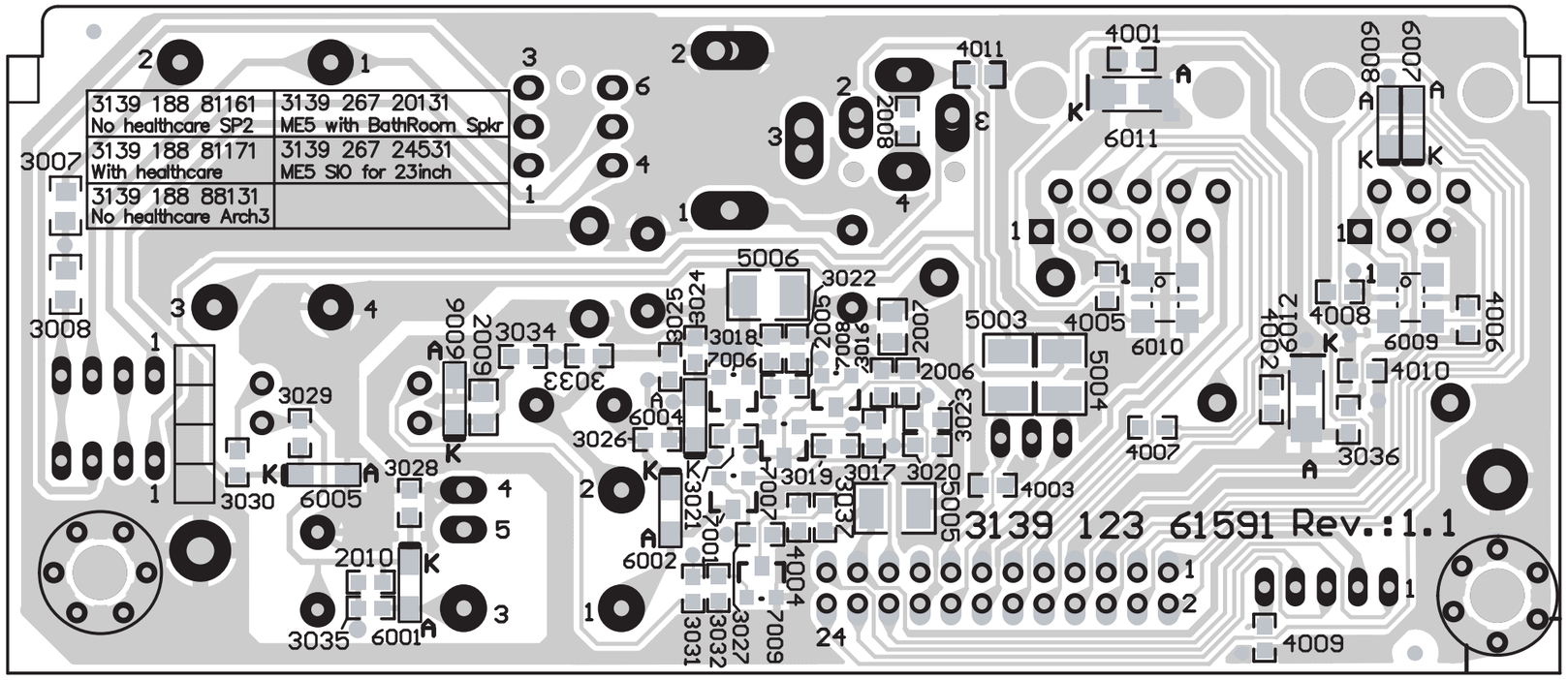
Layout Side I/O Panel 20” & 23” (Top Side)



3139 123 6159.1

F_15790_016.eps
061205

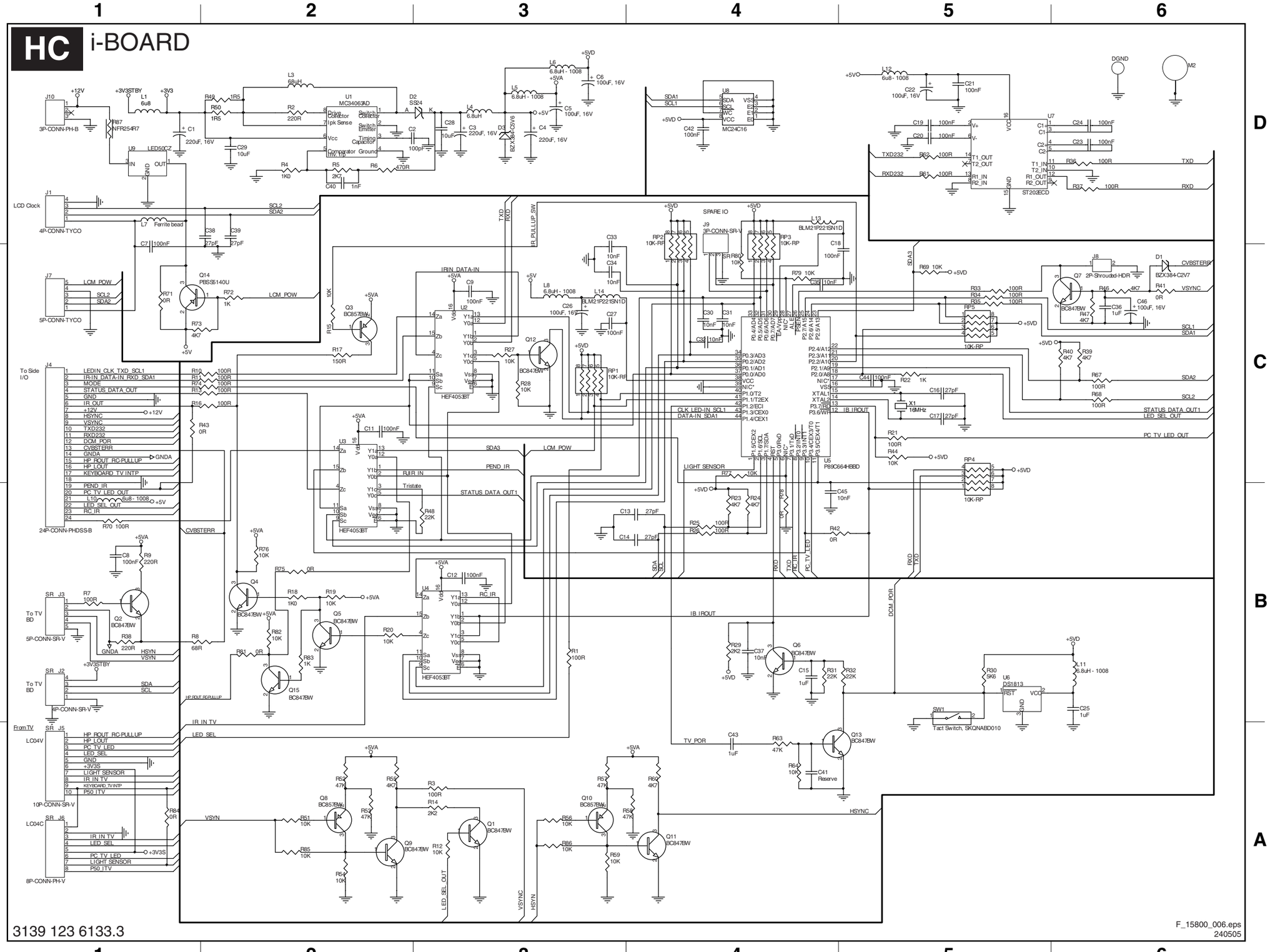
Layout Side I/O Panel 20” & 23” (Bottom Side)



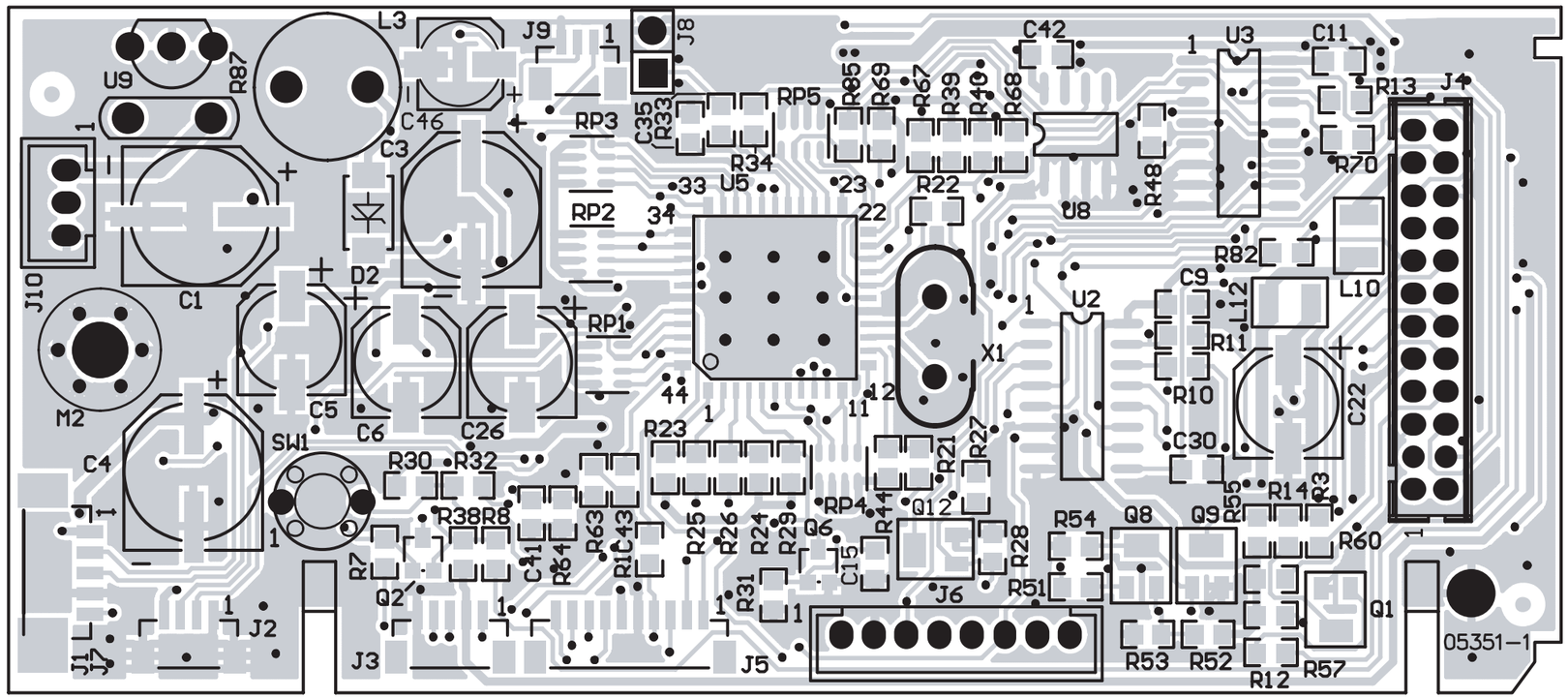
3139 123 6159.1

F_15790_017.eps
061205

i-Board Panel



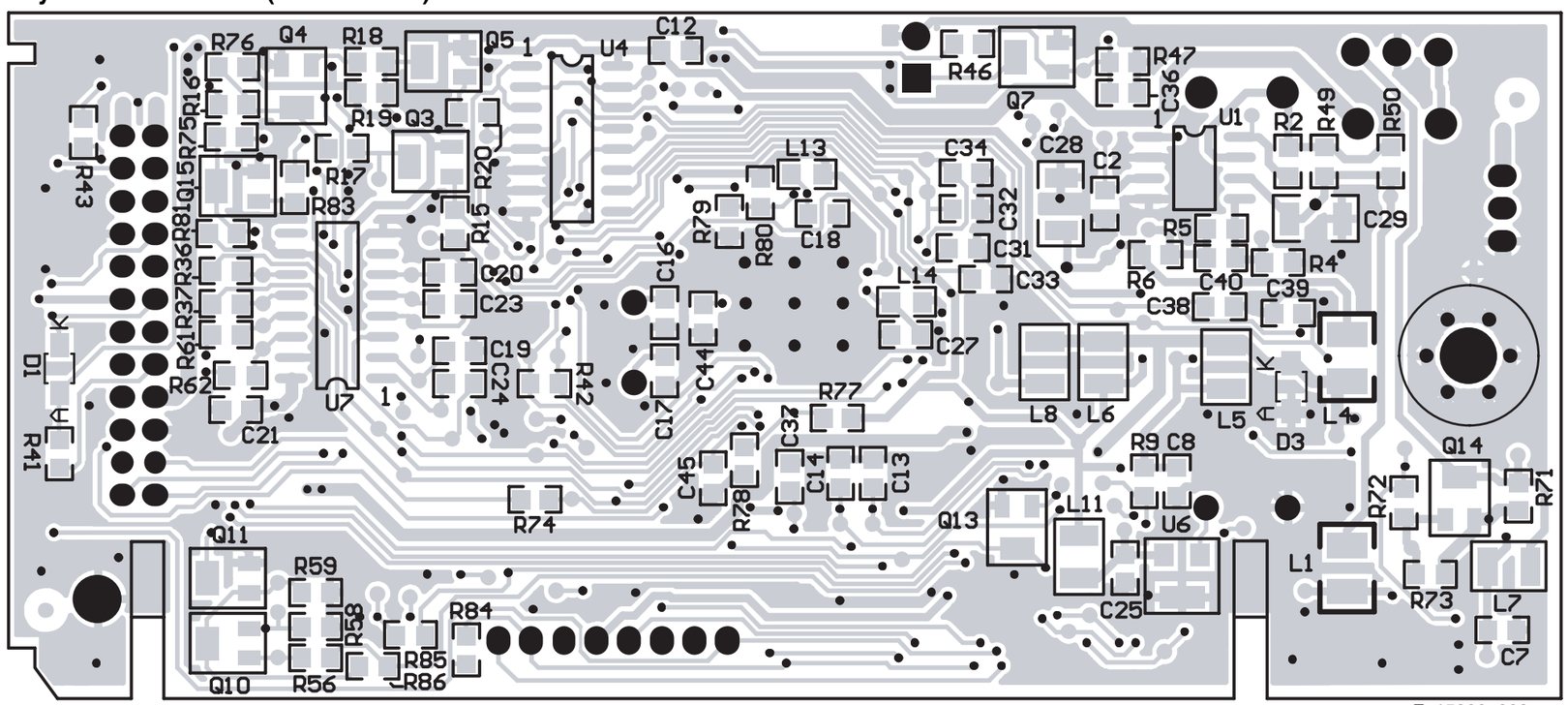
Layout i-Board Panel (Top Side)



3139 123 6133.3

F_15800_007.eps
240505

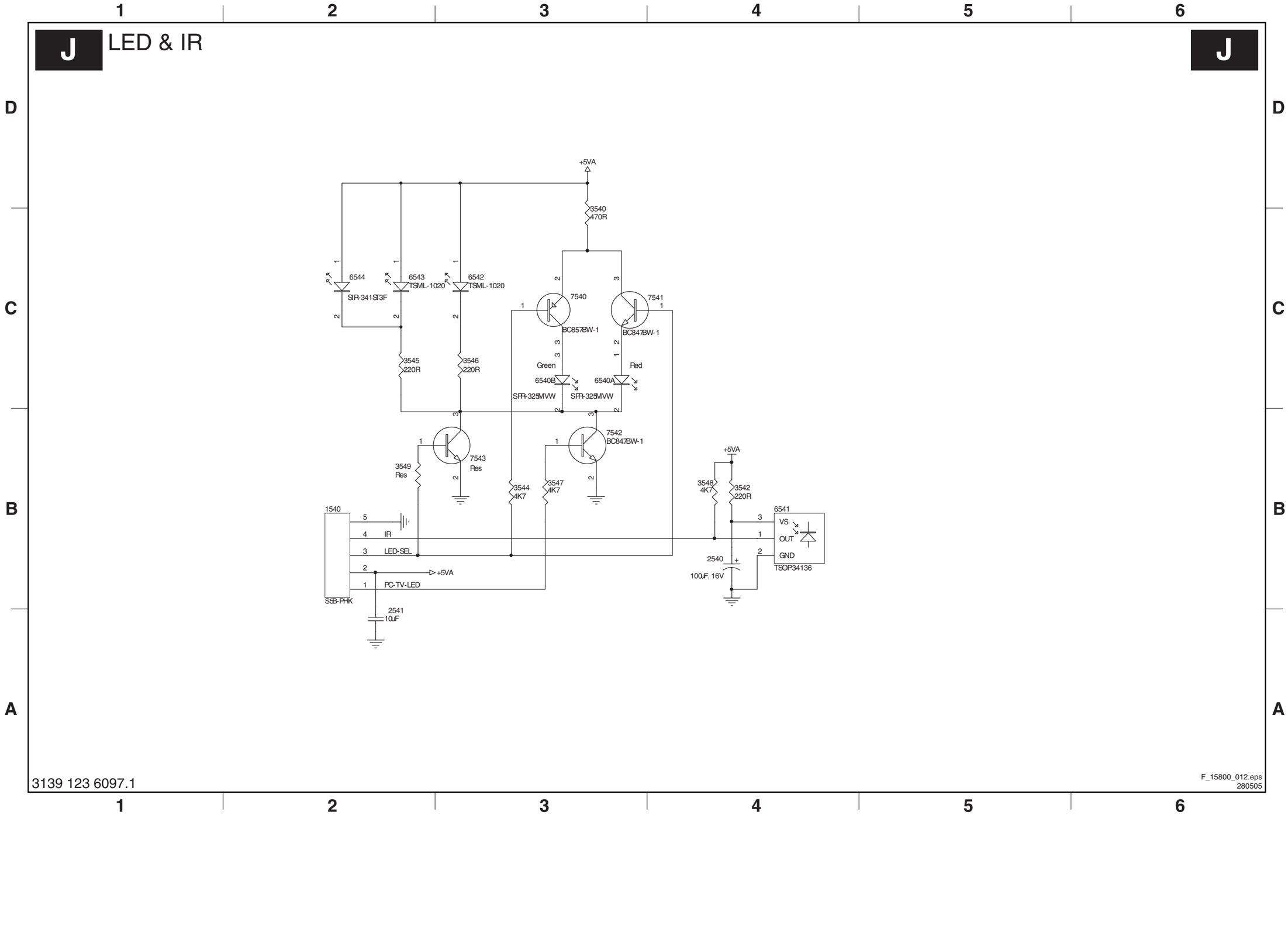
Layout i-Board Panel (Bottom Side)



3139 123 6133.3

F_15800_008.eps
240505

LED and IR Panel



3139 123 6097.1

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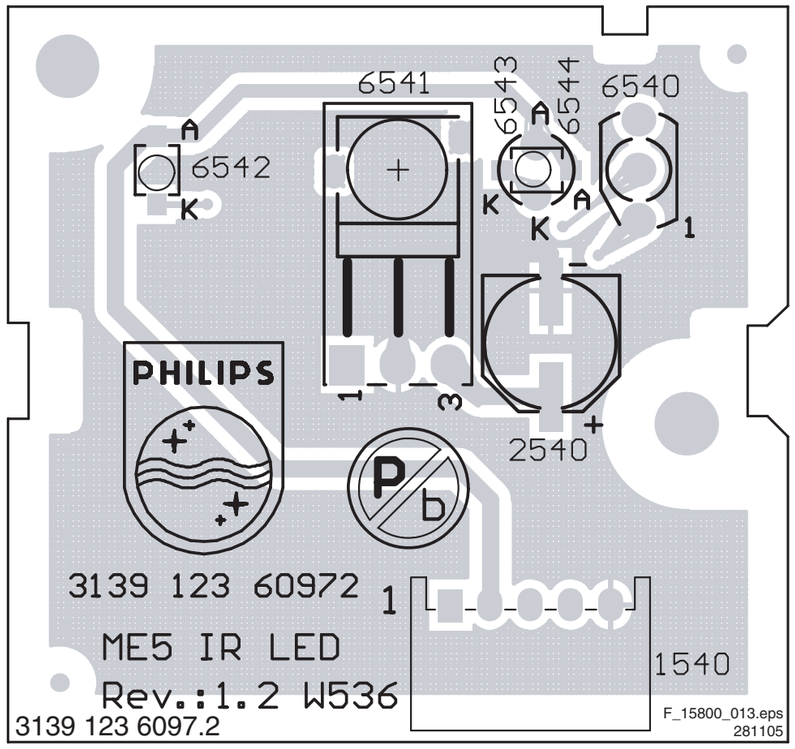
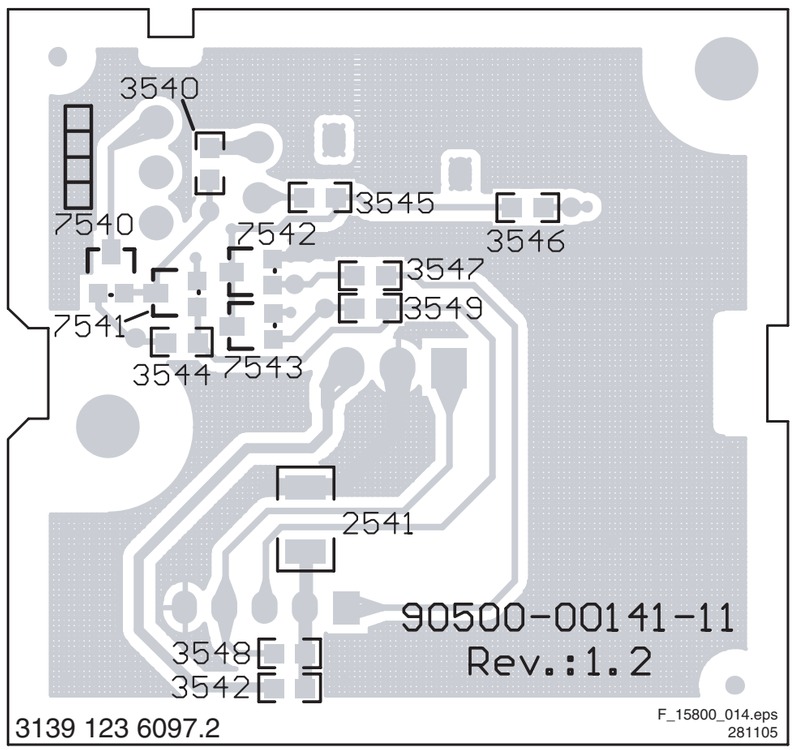
Layout LED and IR Panel (Top Side)



Layout LED and IR Panel (Bottom Side)



Personal Notes:

E_06532_012.eps
131004

LCD Clock Panel

LCD CLOCK PANEL

VDD
R8
18R
BAS216
AK-8504-CQ4
Q2
BC857B
R9
2K2
VDD
Q1
R1
2K2
C1
100uF
BC857B
Q3
BC857B
R11
47R
LED
R10
2K2
VDD
R5
10K
R2
100R
U2
LCD
U1
L1 BLM21PG221SN1D
VDD
I/O
VDD
SDA
SCL
VSS
1442I/O
R3 100R
R4 100R
C3
10P
C2
10P
J1
1uF
HT46R23
HT1621
LCD1442
I/O
VDD
SDA
SCL
VSS
RES
1443I/O
C8
12P
4MHz
C7
12P
R12
Q4
R6
10K
R7
100K
C4
0.1uF
R13
C6
1uF
C5
1uF
VDD

3139 188 6736.1

F_15140_007.eps
281105

Personal Notes:

E_06532_013.eps
131004

8. Alignments

Index of this chapter:

8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments

Notes:

- Only information that is related to the iTV module, is published in this manual. For the other information, see the relevant chassis manual (order code on front page).
- Figures below can deviate slightly from the actual situation, due to the different set executions.
- The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 100-240 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

8.2 Hardware Alignments

There are no hardware alignments foreseen for the LCD-TV.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned. To store the data: Use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

8.3.1 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring features or settings of the Hercules part of the TV set to their original default factory values (8 groups of 8 features/ settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 Hercules options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular Hercules feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the Hercules part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change Options at Bit Level
If you wish to know which features or settings of the Hercules are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.

Table 8-1 Option Bytes (OP1 .. 7) overview

OP	Bit	Feature / Mode	15HF5443/10	20HF5473/10	23HF5473/10
1	7	OP_PHILIPS_TUNER	1	1	1
	6	OP_FM_RADIO	1	1	1
	5	OP_LNA	0	0	0
	4	OP_ATS	1	1	1
	3	OP_ACI	1	1	1
	2	OP_UK_PNP	0	0	0
	1	OP_VIRGIN_MODE	0	0	0
	0	OP_CHINA	0	0	0
Total DEC Value			216	216	216
2	7	OP_SC	0	0	0
	6	OP_UI_GREEN	0	0	0
	5	OP_CHANNEL_NAMING	0	0	0
	4	OP_LTI (Lum Transient Improvmt)	0	0	0
	3	OP_TILT	0	0	0
	2	OP_FINE_TUNING	1	1	1
	1	OP_PIP_PHILIPS_TUNER	0	0	0
	0	OP_HUE	0	0	0
Total DEC Value			4	4	4
3	7	OP_EW_FUNCTION	1	1	1
	6	OP_2TUNER_PIP	0	0	0
	5	OP_PIP_SPLITTER	0	0	0
	4	OP_SPLITTER	0	0	0
	3	OP_VIRTUAL_DOLBY	1	1	1
	2	OP_WIDE_SCREEN	0	0	1
	1	OP_WSSB	0	0	1
	0	OP_ECO_SUBWOOFER	0	0	0
Total DEC Value			136	136	142
4	7	OP_PC_MODE	1	1	1
	6	OP_HD	1	1	1
	5	OP_ULTRA_BASS	0	0	0
	4	OP_DELTA_VOLUME	1	1	1
	3	OP_TAIWAN_KOREA	0	0	0
	2	OP_VOLUME_LIMITER	0	0	0
	1	OP_STEREO_DBX	0	0	0
	0	OP_STEREO_NICAM_2CS	1	1	1
Total DEC Value			209	209	209
5	7	OP_AV1	1	1	1
	6	OP_AV2	0	0	0
	5	OP_AV3	1	1	1
	4	OP_CVI	0	0	0
	3	OP_SVHS2	0	0	0
	2	OP_SVHS3	1	1	1
	1	OP_HOTEL_MODE	0	0	0
	0	OP_SIMPLY_FACTORY	0	0	0
Total DEC Value			164	164	164
6	7	OP_PERSONAL_ZAPPING	0	0	0
	6	OP_SMART_SURF	0	0	0
	5	OP_FMTRAP	0	0	0
	4	OP_COMBFILTER	1	1	1
	3	OP_ACTIVE_CONTROL	1	1	1
	2	OP_VIDEO_TEXT	0	0	0
	1	OP_LIGHT_SENSOR	0	0	0
	0	OP_TWIN_TEXT	0	0	0
Total DEC Value			24	24	24
7	7	OP_TIME_WIN1	0	0	0
	6	OP_16:9_set	0	0	1
	5	OP_THAI	0	0	0
	4	OP_3D_COMBFILTER	0	0	0
	3	OP_DUMMY6	0	0	0
	2	OP_DUMMY7	0	0	0
	1	OP_WEST_EU	1	1	1
	0	OP_MULTI_STANDARD_EUR	1	1	1
Total DEC Value			3	3	67

8.3.2 ADC Gain and Grey Scale Alignment

The table below shows a number of important NVM settings (in decimal values) used for each TV model. Be sure to use the correct editor in the SAM menu (NVM Editor), because this one is used for the Hercules NVM, and the SC NVM Editor for the SCALER (SC) part of the TV set.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings below address 320 (dec), as this will hamper the DVI functionality of the TV set!**
- **Always write down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.**

Table 8-2 Hercules default NVM settings (editable via "NVM Editor" in SAM mode)

Byte/Addr.	Bit	Feature/Mode	Description	15HF5443/10	20HF5473/10	23HF5473/10
Byte 0/	0	QSS (LSB)	Mode of quasi split sound amplifier	1	1	1
174(dec)	1	FMI	Connection of output of QSS amplifier	1	1	1
	2	HCO	EHT tracking mode	0	0	0
	3	HP2	Synchronization of OSD/Text display	1	1	1
	4	FSL	Forced slicing level for vertical sync	1	1	1
	5	TFR	DC transfer ratio of luminance signal	1	1	1
	6	OSVE	Black current measuring in overscan	0	0	0
	7	MVK (MSB)	(For Future Usage, as defined by software)	0	0	0
Total Dec Values				59	59	59
Byte 1/	0	PSE		0	0	0
175(dec)	1	OPC		0	0	0
	2	PRIS		0	0	0
	3	CONTINUOUS FACTORY	Continuous factory mode	1	1	1
	4	WHITE PATTERN ON	Last color pattern status in factory mode	0	0	0
	5	SDM MODE	Service default mode on/off	0	0	0
	6	SAM MODE	Service Align mode on/off	0	0	0
	7	SVMA	Scavm On / Off	0	0	0
Total Dec Values				8	8	8
Byte 2/	0	MUTE STATUS	Mute status	0	0	0
176(dec)	1	TUNER AUTO MODE	Auto mode	1	1	1
	2	CABLE MODE	Cable/Antenna mode	0	0	0
	3	LAST POWER MODE	Last power status of the set	1	1	1
	4	CHILD LOCK MODE	Child lock enabled	0	0	0
	5	SURF MODE	Surf mode on/off	0	0	0
	6	FACTORY MODE	Factory mode on	1	1	1
	7	PSNS	For PAL color enhancement in ES4	1	1	1
Total Dec Values				202	202	202
Byte 3/	0	RADIO/TV MODE	Radio mode or TV mode	0	0	0
177(dec)	1	WAKE-UP MODE		0	0	0
	2	HOTEL MODE	TV in Hotel mode	0	0	0
	3	HOTEL KBD LOCK	Keyboard locked	0	0	0
	4	HBL		0	0	0
	5	BLS	Blue stretch mode	1	1	1
	6	SL		0	0	0
	7	CFA0	Comb filter On/Off	0	0	0
Total Dec Values				32	32	32
Byte 4/	0	Signal Strength	Signal Strength Switch in MK2	0	0	0
178(dec)	1	LPG		0	0	0
	2	DVD TRAY LOCK	Lock/Unlock DVD tray	0	0	0
	3	SCRSAVER MODE	Screen saver mode	1	1	1
	4	BKS	Black Stretch Mode	1	1	1
	5	BSD	Black Stretch Depth	1	1	1
	6	CRA0	Coring on SVM	0	0	0
	7	PIP QSS	PIP QSS	0	0	0
Total Dec Values				56	56	56
Byte 5/	0	FFI	Fast Filter	0	0	0
179(dec)	1	NNR	No red reduction during blue stretch	1	1	1
	2	MUS	NTSC matrix	0	0	0
	3	GAM	Gamma control	1	1	1
	4	CBS	Control sequence of beam current limiting	0	0	0
	5	LLB	Low level of beam current limiter	0	0	0
	6	DSA	Dynamic skin tone angle	1	1	1
	7	DSK		0	0	0
Total Dec Values				74	74	74

Byte/Addr.	Bit	Feature/Mode	Description	15HF5443/10	20HF5473/10	23HF5473/10
Byte 6/ 180(dec)	0	LTI status	LTI last status	0	0	0
	1	INC_LIFE_TIME		0	0	0
	2	PC_MODE		0	0	0
	3	HD_MODE		0	0	0
	4	TACT_SWITCH		0	0	0
	5	SET_IN_SPECIAL_STBY		0	0	0
	6	HOTEL_OSDDISPLAY		0	0	0
	7	HOTEL_MONITOROUT		0	0	0
Total Dec Values				0	0	0
Byte 7/ 181(dec)	0	HOTEL_ICONNMODE		0	0	0
	1	DBE	Dynamic Bass Enhancement Status	1	1	1
	2	SET_IN_PC_SLEEP_MODE		0	0	0
	3	Reserved	Reserved	0	0	0
	4	Reserved	Reserved	0	0	0
	5	Reserved	Reserved	0	0	0
	6	Reserved	Reserved	0	0	0
	7	Reserved	Reserved	0	0	0
Total Dec Values				2	2	2

8.4 Setting the Correct iTV Model

If the i-Board is directly replaced by a new off-shelf module (already programmed with platform software), the correct iTV model still must be programmed via below sequences to get to the correct model type with its I/O configurations.

1. Put the iTV remote control (e.g. RC2573) in setup mode.
2. Push a number on the remote control to switch “on” the TV.
3. Push the RECALL button.
4. Check the model number, listed in line 05.
   If it is correct, the setting is done.
   If the number is incorrect, continue with the next point.
5. Key in “042420”, immediately followed by “M”.
   You now enter SDM.
6. Select and activate NVM EDIT mode.
7. Key in address “0022” (hex).
8. Push ARROW DOWN to activate the “Value” line.
9. From the Diversity table read the diversity code that belongs to the type of TV set you are adjusting. Enter that number in the “Value” line.
10. Select STORE to put the new value in the NVM.
11. Push the POWER button to switch “off” the TV set.
12. Pull the mains plug.
13. Reconnect the mains plug after a few seconds.
14. The new setting is now active.

Table 8-3 Diversity table

Diversity Storage Byte		
Model	**Address (hex)**	**Diversity code (hex)**
15HF5443/10	0022	09
20HF5473/1016		10
23HF5473/1017		11

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction
9.2 Abbreviation List
9.3 IC Data Sheets

9.1 Introduction

The LC4.1 LCD iTV is a Hotel TV based on the LC4.1 chassis. For a detailed circuit description, please use that specific manual (order code on front page). The iTV specific board in this chassis (i-Board) is for Service a “black box”, and therefore must be replaced completely when defective (board swap).

9.2 Abbreviation List

480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
AV	External Audio Video
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
DFU	Directions For Use: Owner's manual
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)
EU	Europe
H	H_sync to the module
HD	High Definition
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
I^2C	Integrated IC bus
IC	Integrated Circuit
IF	Intermediate Frequency
IR	Infra Red
ITV	Institutional TV
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
NC	Not Connected
NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory; IC containing data such as alignment values, preset stations
O/C	Open Circuit
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PCB	Printed Circuit Board (or PWB)
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
PWB	Printed Wiring Board (also called PCB or CBA)
RC	Remote Control transmitter
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
SAM	Service Alignment Mode
S/C	Short Circuit
SCL	Serial CLock Signal on I^2C bus
SDA	Serial DAta Signal on I^2C bus
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
VGA	Video Graphics Array; 640x480 (4:3)
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal

9.3 IC Data Sheets

Use the specific manual (order code on front page).

10. Spare Parts List

Set Level

Various

1099⚠	9322 207 48682	LC150X02-A4 (LGPH)
1099⚠	9322 220 99682	LC201V02-A3KB (LGPH)
1099⚠	9322 232 69682	QD23HL02-REV01(03)
1116	3139 267 14001	Side I/O Assy [D] 20-23”
1116	3139 267 14051	Side I/O Assy [D] 15”
1123	3139 267 22591	i-Board Assy [HC]
1124	3139 267 20161	Side I/O Assy [i2] 15”
1124	3139 267 20131	Side I/O Assy [i2] 20”
1124	3139 267 24531	Side I/O Assy [i2] 23”
1125	3139 267 18131	LED/IR Assy [J]
1174	3139 188 64861	Audio Amp. Assy [I]
1178	3139 188 67361	LCD Clock Assy [O]
1188⚠	3139 128 77301	Power supply 15”
1188⚠	3341 101 20041	Power supply 20”
1188⚠	3122 137 23071	Power supply 23”
8400	3104 157 03961	Cable 3p/180/3p
8400	3104 311 10941	Cable 3p/400/3p Wh
8402	3139 131 03981	Cable 41p 150
8404	3139 131 03991	Cable 20p 150
8404	3139 131 06101	Cable 20p/220/30p
8405	3139 131 06341	Cable 4p/680/4p
8406	3139 131 04401	Cable 24p/280/24P
8406	3139 131 04571	Cable 24p/180/24p
8870	3104 157 02001	Cable 5p/140/5p Bk
8990	3139 131 06203	Cable 14p/140/12p

Small Signal Board [B]

Various

1001	2422 543 01414	Xtal 24.576MHz
1007	4822 265 11352	Connector 8p
1010	2422 025 18734	Connector 11p m
1101	4822 265 10703	Socket scart 21p
1302	3139 147 23021	TUNER UR1316S/A I H-3
1328	2422 549 44372	SAW 38.9MHz K3953L
1330	2422 549 44369	SAW 38.9MHz K9656L
1331	4822 267 10459	Connector 3p
1332	2422 025 17764	Connector 4P M
1401	2422 025 09406	Connector 4p m
1402	2422 025 18024	Connector 40p m
1403	2422 543 01374	Xtal 14.318 Mhz
1404	2422 025 18314	Connector 20p m
1462	2422 025 17931	Connector 5P m
1485	2422 033 00515	Socket DVI-I 29p f
1684	2422 025 10768	Connector 3p m
1701	4822 267 10918	Connector 3p
1751	2422 025 18739	Connector 5p m
1910	2422 025 18746	Connector 12p m
1951	2422 025 18752	Connector 5p m
8010	3139 110 25971	Cwas 10pH/10pH Bk
8010	3139 110 28151	Cable 10p/140/10p Bk
8401	3139 110 27731	Cable 04p/080/04p
8401	3139 131 06171	Cable 04p/220/04p
8403	3104 311 09811	Cable 4p/180/4p Wh
8408	3104 311 09801	Cable 8p/100/8p Wh
8408	3104 311 10971	Cable 8p/140/8p Wh
8408	3139 110 28031	Cwas 8pH/8pH Bk
8409	3139 131 06391	Cable 3p/280/03p Bk
8462	3139 131 04471	Cable 5p/140/5p
8462	3139 131 05351	Cable 5p/180/5p
8701	3103 308 90612	CWAS 03PH/03PH 220 BK AWG26
8751	3139 131 06181	Cable 5p/340/5p
8910	3139 110 28271	Cable 12P
8910	3139 131 06321	Cable 12p/180/12p 560/2p
8951	3104 157 02361	Cable 5p 280

⊣⊢

2001	2238 586 59812	100nF 20% 50V 0603
2004	3198 017 42240	220nF 16V Y5V 0603
2008	3198 017 44740	470nF 10V 0603
2009	3198 017 41050	1µF 10V 0603
2010	5322 126 11582	6.8nF 10% 63V
2011	3198 017 42240	220nF 16V Y5V 0603
2012	4822 124 23002	10µF 16V
2013	2238 586 59812	100nF 20% 50V 0603
2016	2238 586 59812	100nF 20% 50V 0603
2017	2238 586 59812	100nF 20% 50V 0603
2018	5322 126 11583	10nF 10% 50V 0603
2023	3198 017 42240	220nF 16V Y5V 0603
2024	4822 124 12084	1µF 20% 50V
2027	2238 586 59812	100nF 20% 50V 0603
2030	2238 586 59812	100nF 20% 50V 0603
2031	2238 586 59812	100nF 20% 50V 0603
2032	2238 586 59812	100nF 20% 50V 0603
2033	3198 017 42240	220nF 16V Y5V 0603
2035	2020 021 91729	4.7µF 20% 35V
2036	4822 126 11785	47pF 5% 50V 0603
2037	4822 126 11785	47pF 5% 50V 0603
2043	2238 586 59812	100nF 20% 50V 0603
2044	3198 017 42240	220nF 16V Y5V 0603
2049	4822 124 23002	10µF 16V
2051	4822 124 23002	10µF 16V
2052	3198 016 31020	1nF 25V 0603
2053	2238 586 59812	100nF 20% 50V 0603
2054	2238 586 59812	100nF 20% 50V 0603
2055	2238 586 59812	100nF 20% 50V 0603
2056	2238 586 59812	100nF 20% 50V 0603
2057	2238 586 59812	100nF 20% 50V 0603
2058	3198 016 31020	1nF 25V 0603
2060	2238 586 59812	100nF 20% 50V 0603
2061	4822 124 23002	10µF 16V
2063	3198 017 31540	150nF 10V 0603
2067	3198 016 31020	1nF 25V 0603
2068	3198 017 42240	220nF 16V Y5V 0603
2072	3198 017 42240	220nF 16V Y5V 0603
2073	5322 126 11583	10nF 10% 50V 0603
2074	3198 017 42240	220nF 16V Y5V 0603
2076	3198 017 42240	220nF 16V Y5V 0603
2078	2020 552 94427	100pF 5% 50V
2082	2238 586 59812	100nF 20% 50V 0603
2083	2020 552 96637	10µF 10% 6.3V 0805
2099	3198 016 31020	1nF 25V 0603
2101	4822 126 14241	330pF 0603 50V
2102	4822 124 23002	10µF 16V
2103	4822 126 14241	330pF 0603 50V
2104	4822 126 14491	2.2µF 10V 0805
2105	4822 126 14241	330pF 0603 50V
2106	4822 124 23002	10µF 16V
2107	4822 126 14241	330pF 0603 50V
2108	4822 126 14491	2.2µF 10V 0805
2307	3198 017 34730	47nF 16V 0603
2309	2020 012 00029	330µF 6.3V
2311	4822 124 23237	22µF 6.3V
2313	5322 126 11578	1nF 10% 50V 0603
2314	2238 586 59812	100nF 20% 50V 0603
2317	5322 126 11578	1nF 10% 50V 0603
2318	5322 126 11578	1nF 10% 50V 0603
2321	5322 126 11583	10nF 10% 50V 0603
2324	5322 126 11583	10nF 10% 50V 0603
2357	2238 586 59812	100nF 20% 50V 0603
2359	5322 126 11583	10nF 10% 50V 0603
2372	2238 586 59812	100nF 20% 50V 0603
2374	2238 586 59812	100nF 20% 50V 0603
2375	4822 124 23002	10µF 16V
2376	2238 586 59812	100nF 20% 50V 0603
2377	2238 586 59812	100nF 20% 50V 0603
2378	3198 017 42240	220nF 16V Y5V 0603
2379	3198 017 42240	220nF 16V Y5V 0603
2380	4822 124 12095	100µF 20% 16V
2381	2238 586 59812	100nF 20% 50V 0603
2382	2020 552 00183	2.2µF 10% 6.3V 0603
2383	2020 552 00183	2.2µF 10% 6.3V 0603
2384	2020 552 00183	2.2µF 10% 6.3V 0603
2385	2020 552 00183	2.2µF 10% 6.3V 0603
2386	3198 017 42240	220nF 16V Y5V 0603
2387	2020 012 00029	330µF 6.3V
2388	2020 012 00028	470µF 20% 16V
2389	4822 126 11785	47pF 5% 50V 0603
2390	4822 126 11785	47pF 5% 50V 0603
2394	2238 586 59812	100nF 20% 50V 0603
2395	2238 586 59812	100nF 20% 50V 0603
2397	4822 126 14249	560pF 10% 50V 0603
2398	4822 126 14249	560pF 10% 50V 0603
2401	4822 124 11131	47µF 6.3V
2402	2238 586 59812	100nF 20% 50V 0603
2403	2238 586 59812	100nF 20% 50V 0603
2404	2238 586 59812	100nF 20% 50V 0603
2405	2238 586 59812	100nF 20% 50V 0603
2406	2238 586 59812	100nF 20% 50V 0603
2407	2238 586 59812	100nF 20% 50V 0603
2408	2238 586 59812	100nF 20% 50V 0603
2409	2238 586 59812	100nF 20% 50V 0603
2410	2238 586 59812	100nF 20% 50V 0603
2411	2238 586 59812	100nF 20% 50V 0603
2412	2238 586 59812	100nF 20% 50V 0603
2413	2238 586 59812	100nF 20% 50V 0603
2414	2238 586 59812	100nF 20% 50V 0603
2415	2238 586 59812	100nF 20% 50V 0603
2416	2238 586 59812	100nF 20% 50V 0603
2417	2238 586 59812	100nF 20% 50V 0603
2418	4822 126 13883	220pF 5% 50V
2419	4822 126 13883	220pF 5% 50V
2420	4822 124 11131	47µF 6.3V
2421	2238 586 59812	100nF 20% 50V 0603
2422	2238 586 59812	100nF 20% 50V 0603
2423	2238 586 59812	100nF 20% 50V 0603
2424	2238 586 59812	100nF 20% 50V 0603
2425	2238 586 59812	100nF 20% 50V 0603
2426	4822 126 13883	220pF 5% 50V
2427	4822 126 13883	220pF 5% 50V
2429	2238 586 59812	100nF 20% 50V 0603
2430	2238 586 59812	100nF 20% 50V 0603
2431	2238 586 59812	100nF 20% 50V 0603
2432	2238 586 59812	100nF 20% 50V 0603
2433	2238 586 59812	100nF 20% 50V 0603
2434	2238 586 59812	100nF 20% 50V 0603
2435	4822 126 13883	220pF 5% 50V
2436	4822 126 13883	220pF 5% 50V
2438	2238 586 59812	100nF 20% 50V 0603
2439	2238 586 59812	100nF 20% 50V 0603
2440	2238 586 59812	100nF 20% 50V 0603
2441	2238 586 59812	100nF 20% 50V 0603
2442	2238 586 59812	100nF 20% 50V 0603
2443	3198 016 35680	5.6pF 0.5pF 50V 0603
2444	3198 016 35680	5.6pF 0.5pF 50V 0603
2445	2238 586 59812	100nF 20% 50V 0603
2448	2238 586 59812	100nF 20% 50V 0603
2450	4822 126 13883	220pF 5% 50V
2451	4822 126 13883	220pF 5% 50V
2452	5322 126 11583	10nF 10% 50V 0603
2463	2238 586 59812	100nF 20% 50V 0603
2471	4822 124 11131	47µF 6.3V
2472	2238 586 59812	100nF 20% 50V 0603
2473	2238 586 59812	100nF 20% 50V 0603
2474	2238 586 59812	100nF 20% 50V 0603
2475	2238 586 59812	100nF 20% 50V 0603
2476	2020 552 96664	33pF 50V 0603
2477	3198 017 41050	1µF 10V 0603
2478	3198 017 41050	1µF 10V 0603
2479	3198 017 41050	1µF 10V 0603
2483	2238 586 59812	100nF 20% 50V 0603
2485	3198 017 41050	1µF 10V 0603
2486	3198 017 41050	1µF 10V 0603
2487	3198 017 41050	1µF 10V 0603
2488	4822 122 33761	22pF 5% 50V
2489	4822 122 33761	22pF 5% 50V
2490	2238 586 59812	100nF 20% 50V 0603
2510	2238 586 59812	100nF 20% 50V 0603
2513	4822 124 23002	10µF 16V
2514	3198 016 31590	15pF 10% 50V 0603
2515	5322 126 11583	10nF 10% 50V 0603
2516	3198 016 36810	680pF 25V 0603
2517	5322 126 11583	10nF 10% 50V 0603
2518	5322 126 11583	10nF 10% 50V 0603
2519	3198 016 31020	1nF 25V 0603
2520	2238 586 59812	100nF 20% 50V 0603
2521	5322 126 11583	10nF 10% 50V 0603
2522	5322 126 11583	10nF 10% 50V 0603
2523	5322 126 11583	10nF 10% 50V 0603
2524	5322 126 11583	10nF 10% 50V 0603
2525	5322 126 11583	10nF 10% 50V 0603
2526	5322 126 11583	10nF 10% 50V 0603
2527	5322 126 11583	10nF 10% 50V 0603
2703	4822 124 23002	10µF 16V
2712	3198 017 41050	1µF 10V 0603
2714	2020 012 00028	470µF 20% 16V
2718	3198 017 41050	1µF 10V 0603
2719	2238 586 59812	100nF 20% 50V 0603
2724	4822 124 41584	100µF 20% 10V
2736	4822 124 80791	470µF 20% 16V
2737	4822 124 80791	470µF 20% 16V
2738	3198 016 31020	1nF 25V 0603
2739	3198 016 31020	1nF 25V 0603
2741	4822 126 13881	470pF 5% 50V
2742	4822 126 13881	470pF 5% 50V
2910	4822 126 13881	470pF 5% 50V
2911	2022 031 00308	22µF 20% 35V
2920	4822 124 80151	47µF 16V
2921	4822 124 80151	47µF 16V
2930	4822 124 80791	470µF 20% 16V
2931	4822 126 13881	470pF 5% 50V
2933	4822 124 80791	470µF 20% 16V
2934	4822 126 13193	4.7nF 10% 63V
2936	5322 126 11578	1nF 10% 50V 0603
2937	5322 126 11578	1nF 10% 50V 0603
2938	5322 126 11578	1nF 10% 50V 0603

2939	5322 126 11578	1nF 10% 50V 0603
2940	5322 126 11578	1nF 10% 50V 0603
2941	5322 126 11578	1nF 10% 50V 0603
2942	5322 126 11578	1nF 10% 50V 0603
2943	4822 124 80195	470µF 20% 10V
2959	2238 586 59812	100nF 20% 50V 0603
2960	4822 124 80151	47µF 16V
2961	5322 126 11583	10nF 10% 50V 0603
2962	2238 586 59812	100nF 20% 50V 0603
2963	2238 586 59812	100nF 20% 50V 0603
2994	4822 124 11131	47µF 6.3V
2995	2238 586 59812	100nF 20% 50V 0603
2996	2238 586 59812	100nF 20% 50V 0603
2997	4822 124 11131	47µF 6.3V
2998	4822 124 40184	1000µF 20% 10V

3001	2322 702 70398	3.9Ω 5% 0603
3002	4822 051 30223	22kΩ 5% 0.062W
3003	2322 702 70398	3.9Ω 5% 0603
3004	4822 051 30223	22kΩ 5% 0.062W
3005	4822 051 30273	27kΩ 5% 0.062W
3007	4822 051 30472	4.7Ω 5% 0.062W
3008	4822 117 12925	47kΩ 1% 0.063W 0603
3009	4822 117 13632	100kΩ 1% 0603 0.62W
3010	4822 117 12891	220kΩ 1%
3011	4822 051 30472	4.7Ω 5% 0.062W
3012	4822 051 30101	100Ω 5% 0.062W
3013	4822 051 30101	100Ω 5% 0.062W
3016	4822 051 30101	100Ω 5% 0.062W
3019	4822 051 30101	100Ω 5% 0.062W
3020	4822 051 30101	100Ω 5% 0.062W
3024	4822 051 30472	4.7Ω 5% 0.062W
3052	4822 051 30101	100Ω 5% 0.062W
3058	4822 051 30101	100Ω 5% 0.062W
3059	4822 051 30102	1kΩ 5% 0.062W
3060	4822 051 30393	39kΩ 5% 0.062W
3063	4822 051 30222	2.2kΩ 5% 0.062W
3064	4822 051 30103	10kΩ 5% 0.062W
3066	4822 051 30472	4.7Ω 5% 0.062W
3070	4822 051 30101	100Ω 5% 0.062W
3075	4822 051 30472	4.7Ω 5% 0.062W
3077	4822 051 30472	4.7Ω 5% 0.062W
3078	4822 051 30472	4.7Ω 5% 0.062W
3079	4822 051 30222	2.2kΩ 5% 0.062W
3080	2322 704 61002	1kΩ 1%
3081	4822 051 30101	100Ω 5% 0.062W
3082	4822 051 30101	100Ω 5% 0.062W
3086	4822 051 30222	2.2kΩ 5% 0.062W
3087	4822 051 30103	10kΩ 5% 0.062W
3091	4822 051 30101	100Ω 5% 0.062W
3092	4822 051 30472	4.7Ω 5% 0.062W
3093	4822 051 30472	4.7Ω 5% 0.062W
3094	4822 051 30109	10Ω 5% 0.062W
3097	4822 051 30472	4.7Ω 5% 0.062W
3101	4822 051 30151	150Ω 5% 0.062W
3102	4822 117 12891	220kΩ 1%
3103	4822 051 30103	10kΩ 5% 0.062W
3104	4822 051 30153	15kΩ 5% 0.062W
3105	4822 051 30151	150Ω 5% 0.062W
3106	4822 117 12891	220kΩ 1%
3107	4822 051 30103	10kΩ 5% 0.062W
3108	4822 051 30153	15kΩ 5% 0.062W
3109	4822 051 30759	75Ω 5% 0.062W
3110	4822 051 30101	100Ω 5% 0.062W
3111	4822 051 30273	27kΩ 5% 0.062W
3112	4822 051 30682	6.8Ω 5% 0.062W
3113	4822 051 30759	75Ω 5% 0.062W
3114	4822 051 30101	100Ω 5% 0.062W
3115	4822 051 30759	75Ω 5% 0.062W
3116	4822 051 30101	100Ω 5% 0.062W
3117	4822 051 30759	75Ω 5% 0.062W
3118	4822 051 30101	100Ω 5% 0.062W
3119	4822 051 30689	68Ω 5% 0.063W 0603
3120	4822 051 30102	1kΩ 5% 0.062W
3121	4822 051 30759	75Ω 5% 0.062W
3122	4822 051 30101	100Ω 5% 0.062W
3302	4822 051 30101	100Ω 5% 0.062W
3303	4822 051 30101	100Ω 5% 0.062W
3309	4822 051 30103	10kΩ 5% 0.062W
3311	4822 051 30103	10kΩ 5% 0.062W
3314	4822 117 13632	100kΩ 1% 0603 0.62W
3315	4822 051 30154	150kΩ 5% 0.062W
3316	4822 117 12968	820Ω 5% 0.62W
3317	4822 051 30561	560Ω 5% 0.062W
3319	4822 051 30273	27kΩ 5% 0.062W
3320	4822 051 30183	18kΩ 5% 0.062W
3321	4822 051 30222	2.2kΩ 5% 0.062W
3322	4822 051 30682	6.8Ω 5% 0.062W
3323	4822 051 30222	2.2kΩ 5% 0.062W
3327	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7Ω 5% 0.062W
3351	4822 051 30681	680Ω 5% 0.062W
3352	4822 051 30681	680Ω 5% 0.062W
3353	4822 051 30101	100Ω 5% 0.062W
3354	4822 051 30101	100Ω 5% 0.062W
3355	4822 051 30332	3.3Ω 5% 0.062W
3356	4822 051 30332	3.3Ω 5% 0.062W
3359	4822 051 30391	390Ω 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	4822 051 30101	100Ω 5% 0.062W
3374	5322 117 11726	10Ω 5%
3375	4822 051 30101	100Ω 5% 0.062W
3376	4822 117 13632	100kΩ 1% 0603 0.62W
3389	4822 051 30101	100Ω 5% 0.062W
3390	4822 051 30101	100Ω 5% 0.062W
3391	4822 051 30101	100Ω 5% 0.062W
3394	4822 051 30759	75Ω 5% 0.062W
3401	4822 051 30103	10kΩ 5% 0.062W
3402	4822 051 30103	10kΩ 5% 0.062W
3403	2322 704 61501	150Ω 1% 0603
3404	4822 051 30103	10kΩ 5% 0.062W
3405	4822 051 30103	10kΩ 5% 0.062W
3406	4822 051 30103	10kΩ 5% 0.062W
3407	3198 031 13390	4X 33Ω 5% 1206
3408	4822 051 30339	33Ω 5% 0.062W
3409	4822 051 30339	33Ω 5% 0.062W
3410	4822 051 30339	33Ω 5% 0.062W
3411	3198 031 13390	4X 33Ω 5% 1206
3412	3198 031 13390	4X 33Ω 5% 1206
3413	3198 031 13390	4X 33Ω 5% 1206
3414	4822 051 30103	10kΩ 5% 0.062W
3416	2322 704 61001	100Ω 1% 0603
3417	4822 051 30103	10kΩ 5% 0.062W
3418	4822 051 30103	10kΩ 5% 0.062W
3419	4822 051 30103	10kΩ 5% 0.062W
3420	4822 051 30103	10kΩ 5% 0.062W
3421	4822 051 30103	10kΩ 5% 0.062W
3422	4822 051 30103	10kΩ 5% 0.062W
3423	4822 051 30103	10kΩ 5% 0.062W
3424	3198 031 11030	4 x 10kΩ 5% 1206
3425	3198 021 31080	1Ω 5% 0603
3426	3198 021 31080	1Ω 5% 0603
3427	3198 021 31080	1Ω 5% 0603
3428	3198 021 31080	1Ω 5% 0603
3430	4822 051 30101	100Ω 5% 0.062W
3431	4822 051 30101	100Ω 5% 0.062W
3433	4822 051 30103	10kΩ 5% 0.062W
3434	4822 051 30103	10kΩ 5% 0.062W
3435	4822 051 30103	10kΩ 5% 0.062W
3441	4822 051 30101	100Ω 5% 0.062W
3442	4822 051 30101	100Ω 5% 0.062W
3443	4822 051 30103	10kΩ 5% 0.062W
3444	4822 051 30103	10kΩ 5% 0.062W
3445	4822 051 30151	150Ω 5% 0.062W
3446	4822 051 30151	150Ω 5% 0.062W
3451	4822 051 30339	33Ω 5% 0.062W
3452	4822 051 30339	33Ω 5% 0.062W
3453	4822 051 30339	33Ω 5% 0.062W
3454	4822 051 30339	33Ω 5% 0.062W
3455	4822 051 30339	33Ω 5% 0.062W
3456	4822 051 30339	33Ω 5% 0.062W
3457	4822 051 30339	33Ω 5% 0.062W
3458	4822 051 30339	33Ω 5% 0.062W
3459	4822 051 30339	33Ω 5% 0.062W
3471	4822 117 12968	820Ω 5% 0.62W
3478	4822 117 13632	100kΩ 1% 0603 0.62W
3481	3198 021 32290	22Ω 5% 0603
3482	4822 051 30759	75Ω 5% 0.062W
3483	3198 021 32290	22Ω 5% 0603
3484	4822 051 30759	75Ω 5% 0.062W
3485	3198 021 32290	22Ω 5% 0603
3486	4822 051 30759	75Ω 5% 0.062W
3487	4822 051 30102	1kΩ 5% 0.062W
3488	4822 051 30222	2.2kΩ 5% 0.062W
3489	4822 051 30101	100Ω 5% 0.062W
3490	4822 051 30103	10kΩ 5% 0.062W
3491	4822 051 30102	1kΩ 5% 0.062W
3492	4822 051 30102	1kΩ 5% 0.062W
3493	4822 051 30102	1kΩ 5% 0.062W
3494	4822 051 30222	2.2kΩ 5% 0.062W
3495	4822 051 30103	10kΩ 5% 0.062W
3496	4822 051 30101	100Ω 5% 0.062W
3497	4822 051 30101	100Ω 5% 0.062W
3501	4822 051 30103	10kΩ 5% 0.062W
3502	4822 051 30221	220Ω 5% 0.062W
3503	4822 051 30221	220Ω 5% 0.062W
3504	4822 051 30221	220Ω 5% 0.062W
3505	4822 051 30221	220Ω 5% 0.062W
3506	4822 051 30221	220Ω 5% 0.062W
3507	4822 051 30221	220Ω 5% 0.062W
3510	4822 051 30221	220Ω 5% 0.062W
3511	4822 051 30221	220Ω 5% 0.062W
3512	4822 051 30221	220Ω 5% 0.062W
3513	4822 051 30221	220Ω 5% 0.062W
3514	4822 051 30103	10kΩ 5% 0.062W
3515	4822 051 30103	10kΩ 5% 0.062W
3520	4822 051 30333	33kΩ 5% 0.062W
3522	3198 021 32290	22Ω 5% 0603
3523	3198 021 32290	22Ω 5% 0603
3524	3198 021 32290	22Ω 5% 0603
3525	3198 021 32290	22Ω 5% 0603
3526	3198 021 32290	22Ω 5% 0603
3527	3198 021 32290	22Ω 5% 0603
3706	4822 051 30103	10kΩ 5% 0.062W
3717	4822 051 30103	10kΩ 5% 0.062W
3719	4822 051 30103	10kΩ 5% 0.062W
3722	3198 021 38220	8.2kΩ 5% 0.062W 0603
3725	4822 051 30103	10kΩ 5% 0.062W
3726	4822 051 30392	3.9Ω 5% 0.063W 0603
3727	4822 051 30392	3.9Ω 5% 0.063W 0603
3744	3198 021 38220	8.2kΩ 5% 0.062W 0603
3745	3198 021 38220	8.2kΩ 5% 0.062W 0603
3751	4822 051 30101	100Ω 5% 0.062W
3752	4822 051 30101	100Ω 5% 0.062W
3753	4822 051 30471	47Ω 5% 0.062W
3754	4822 051 30102	1kΩ 5% 0.062W
3755	4822 051 30471	47Ω 5% 0.062W
3910	4822 051 30222	2.2kΩ 5% 0.062W
3911	4822 051 30102	1kΩ 5% 0.062W
3930	3198 021 31080	1Ω 5% 0603
3932	2322 704 61002	1kΩ 1%
3933	2322 704 63302	3.3kΩ 1% 0603
3934	3198 021 31080	1Ω 5% 0603
3935	3198 021 31080	1Ω 5% 0603
3936	4822 051 30102	1kΩ 5% 0.062W
3937	2306 207 03151	150Ω 5% 0.5W
3955	4822 051 30103	10kΩ 5% 0.062W
3958	4822 051 30102	1kΩ 5% 0.062W

5002	2422 549 44197	Bead 220Ω at 100MHz
5003	4822 157 11716	Bead 30Ω at 100MHz
5004	4822 157 11716	Bead 30Ω at 100MHz
5005	4822 157 11716	Bead 30Ω at 100MHz
5006	4822 157 11716	Bead 30Ω at 100MHz
5008	2422 549 44197	Bead 220Ω at 100MHz
5060	2422 549 44197	Bead 220Ω at 100MHz
5070	4822 157 11716	Bead 30Ω at 100MHz
5071	2422 549 42896	Bead 120Ω 100MHz
5072	2422 549 42896	Bead 120Ω 100MHz
5321	3198 018 33970	0.39µH 10% 0805
5324	4822 157 71334	0.68µH 5% 1008
5370	4822 157 11716	Bead 30Ω at 100MHz
5371	4822 157 11716	Bead 30Ω at 100MHz
5372	2422 549 44197	Bead 220Ω at 100MHz
5375	2422 536 00667	1000µH 20% 7032
5376	2422 549 44197	Bead 220Ω at 100MHz
5401	4822 157 11717	Bead 50Ω at 100MHz
5402	4822 157 11717	Bead 50Ω at 100MHz
5403	4822 157 11717	Bead 50Ω at 100MHz
5404	4822 157 11717	Bead 50Ω at 100MHz
5462	4822 157 11717	Bead 50Ω at 100MHz
5485	2422 549 45333	Bead 120Ω at 100MHz
5514	2422 549 42896	Bead 120Ω 100MHz
5520	4822 157 11716	Bead 30Ω at 100MHz
5736	3198 018 72280	2.2µ 8mm
5737	3198 018 72280	2.2µ 8mm
5751	4822 157 11716	Bead 30Ω at 100MHz
5910	2422 536 00667	1000µH 20% 7032
5930	2422 535 94639	10µH 20%
5931	2422 536 00689	220µH 20%
5932	2422 535 94639	10µH 20%
5956	2422 549 45333	Bead 120Ω at 100MHz
5957	2422 549 45333	Bead 120Ω at 100MHz
5958	2422 549 45333	Bead 120Ω at 100MHz
5959	2422 549 45333	Bead 120Ω at 100MHz
5961	4822 157 11717	Bead 50Ω at 100MHz

6005	4822 130 11397	BAS316
6060	9322 102 64685	UDZ2.7B
6073	4822 130 80622	BAT54
6076	4822 130 80622	BAT54
6310	4822 130 11397	BAS316
6323	4822 130 11525	1SS356
6485	4822 130 11397	BAS316
6486	4822 130 11397	BAS316
6910	5322 130 34337	BAV99
6911	9340 548 71115	PDZ33B
6930	9322 128 70685	SMSS14

Software

0606	3139 127 05702	SW HERCULES
0611	3139 127 05692	SW i-Board

0611	3139 127 05662	SW GENESIS 15", 23"
0611	3139 127 05682	SW GENESIS 20"
0626	3139 127 06191	SW DDC DVI 20"
0626	3139 127 06181	SW DDC DVI 23"

7001	3198 010 43130	BC807-25
7002	3198 010 42310	BC847BW
7003	3198 010 43130	BC807-25
7004	3198 010 42310	BC847BW
7011		For SW see item 0606
7012	3198 010 42310	BC847BW
7013	3198 010 42310	BC847BW
7014	3198 010 42310	BC847BW
7060	4822 130 11155	PDTC114ET
7099	9322 214 45668	M24C16-WMN6P
7101	5322 130 60159	BC846B
7316	5322 130 42718	BFS20
7320	3198 010 42310	BC847BW
7370	9340 425 20115	BC847BS
7401	9322 219 95671	GM5221H-LF-BC
7402	9322 189 01668	AT24C32AN
7403		For SW see item 0611
7461	9322 199 80668	SM5301BS-G
7463	9322 164 91668	CD74HC4053M
7490		For SW see item 0626
7510	9322 221 97668	SN74LVC14APW
7516	9322 212 97668	MK1575-01G
7702	3198 010 42310	BC847BW
7703	3198 010 42310	BC847BW
7712	9352 683 73118	TDA1517ATW/N1
7751	9352 500 20118	74LVC08AD
7752	3198 010 42310	BC847BW
7910	4822 130 42804	BC817-25
7920	9322 163 24668	L78M08CDT
7930	5322 209 90529	MC34063AD
7936	4822 130 41087	BC638
7952	4822 130 11155	PDTC114ET
7953	9322 199 25668	L4940D2T12
7954	9322 214 00668	SI2301BDS-E3
7955	9322 189 19668	LD1086D2T18

Side I/O Panel [D]

Various

1101	4822 267 10484	YKF51-5359
1102	4822 265 10658	Soc 3P
1104	2422 026 05513	Soc phone 1p
1105	2422 025 09406	Connector 4p m
1106	2422 026 05059	Connector Phone
1107	4822 267 10637	Connector 5p
1108	2422 025 10771	Connector 10p m
1110	2422 025 10768	Connector 3p m
1111	2422 025 09406	Connector 4p m
1112	2422 025 10768	Connector 3p m
1112	2422 025 18468	Connector 3p m
8107	3139 110 27841	Cable 05p/180/05p

2101	3198 016 31510	150pF 10% 50V 0603
2101	4822 126 11785	47pF 5% 50V 0603
2102	3198 016 31510	150pF 10% 50V 0603
2102	4822 126 11785	47pF 5% 50V 0603
2103	4822 126 13881	470pF 5% 50V
2104	4822 126 13881	470pF 5% 50V
2105	2020 552 94427	100pF 5% 50V
2106	2020 552 94427	100pF 5% 50V
2107	3198 016 31020	1nF 25V 0603
2108	3198 016 31020	1nF 25V 0603
2109	3198 016 31020	1nF 25V 0603
2110	3198 016 31020	1nF 25V 0603
2111	4822 124 12245	220µF 20% 10V
2112	4822 124 12245	220µF 20% 10V
2113	4822 126 13881	470pF 5% 50V
2114	4822 126 13881	470pF 5% 50V
2117	2020 552 96305	4.7µF 20-80% 10V

3101	4822 051 30109	10Ω 5% 0.062W
3103	4822 051 30109	10Ω 5% 0.062W
3104	4822 051 30759	75Ω 5% 0.062W
3105	4822 051 30759	75Ω 5% 0.062W
3106	4822 051 30759	75Ω 5% 0.062W
3107	4822 051 30223	22kΩ 5% 0.062W
3108	4822 117 12925	47kΩ 1% 0.063W 0603
3109	4822 051 30223	22kΩ 5% 0.062W
3110	4822 117 12925	47kΩ 1% 0.063W 0603
3111	4822 051 30223	22kΩ 5% 0.062W
3112	4822 051 30223	22kΩ 5% 0.062W
3113	4822 117 12925	47kΩ 1% 0.063W 0603
3114	4822 117 12925	47kΩ 1% 0.063W 0603
3115	4822 051 30121	120Ω 5% 0.062W
3116	4822 051 30121	120Ω 5% 0.062W
3123	4822 051 30101	100Ω 5% 0.062W
3124	4822 051 30101	100Ω 5% 0.062W
3125	4822 051 30102	1kΩ 5% 0.062W
3126	4822 051 30183	18kΩ 5% 0.062W
3127	4822 051 30183	18kΩ 5% 0.062W
4102	4822 051 30008	Jumper 0603
4103	4822 051 30008	Jumper 0603
4104	4822 051 30008	Jumper 0603
4105	4822 051 30008	Jumper 0603
4108	4822 051 30008	Jumper 0603
4120	4822 051 30008	Jumper 0603
4121	4822 051 30008	Jumper 0603
4122	4822 051 30008	Jumper 0603
4123	4822 051 30008	Jumper 0603

6101	4822 130 11148	UDZ4.7B
6102	4822 130 11148	UDZ4.7B
6105	4822 130 11148	UDZ4.7B
6106	4822 130 11148	UDZ4.7B
6109	4822 130 11148	UDZ4.7B
6110	4822 130 11148	UDZ4.7B
6111	4822 130 11148	UDZ4.7B
6112	4822 130 11148	UDZ4.7B

7101	4822 130 60373	BC856B

Keyboard Control Panel [E]

Various

1309	4822 276 13775	Switch 1p 0.1A 12V
1310	4822 276 13775	Switch 1p 0.1A 12V
1311	4822 276 13775	Switch 1p 0.1A 12V
1312	4822 276 13775	Switch 1p 0.1A 12V
1313	4822 276 13775	Switch 1p 0.1A 12V
1314	4822 276 13775	Switch 1p 0.1A 12V
1684	4822 267 10459	Connector 3p
8684	3104 157 03961	Cable 3p/180/3p
8684	3139 110 27681	Cable 3p/280/03p Bk

3318	4822 051 30151	150Ω 5% 0.062W
3319	4822 051 30391	390Ω 5% 0.062W
3320	3198 021 31820	1.8kΩ 5% 0.062W 0603
3321	4822 117 12968	820Ω 5% 0.62W
3322	4822 051 30008	Jumper 0603
3323	4822 051 30008	Jumper 0603
3324	4822 051 30561	560Ω 5% 0.062W

6306	4822 130 11148	UDZ4.7B

i-Board Panel [HC]

see "Set Level"

Audio Amplifier Panel [I]

Various

1703	2422 025 17117	Connector 2p m
1703	2422 025 18737	Connector 2p m
1704	2422 025 16966	Connector 5p m SMD
1704	2422 025 18739	Connector 5p m
1706	2422 025 16702	Connector 5p m h
1706	2422 025 18752	Connector 5p m

2703	4822 124 23002	10µF 16V
2712	3198 017 41050	1µF 10V 0603
2713	2238 586 59812	100nF 20% 50V 0603
2714	2020 012 00003	470µF 16V 20% SMD
2715	2020 012 00003	470µF 16V 20% SMD
2718	3198 017 41050	1µF 10V 0603
2719	2238 586 59812	100nF 20% 50V 0603
2741	4822 126 13881	470pF 5% 50V
2742	4822 126 13881	470pF 5% 50V
2746	3198 017 41050	1µF 10V 0603

3701	4822 051 30332	3.3Ω 5% 0.062W
3702	4822 051 30332	3.3Ω 5% 0.062W
3706	4822 051 30103	10kΩ 5% 0.062W
3714	5322 117 13056	8.2kΩ 1% 0.063W 0603
3715	4822 117 12903	1.8kΩ 1% 0.063W 0603
3726	5322 117 13056	8.2kΩ 1% 0.063W 0603
3727	4822 117 12903	1.8kΩ 1% 0.063W 0603
3744	4822 051 30103	10kΩ 5% 0.062W
3746	4822 051 30103	10kΩ 5% 0.062W
3747	4822 051 30103	10kΩ 5% 0.062W
3748	4822 051 30103	10kΩ 5% 0.062W
3749	4822 051 30103	10kΩ 5% 0.062W
3750	4822 051 30682	6.8Ω 5% 0.062W
3751	4822 051 30682	6.8Ω 5% 0.062W
4720	4822 051 30008	Jumper 0603

5709	4822 157 11716	Bead 30Ω at 100MHz
5710	4822 157 11716	Bead 30Ω at 100MHz

7703	9340 425 20115	BC847BS
7709	9322 206 09668	TDA7297D

Side I/O Panel & LKB [i2]

see "Set Level"

LED/IR Panel [J]

see "Set Level"

LCD Clock Panel [O]

see "Set Level"

11. Revision List

Manual xxxx xxx xxxx.0

- First release.